Clinical Lecture
ON
THE VALUE OF ACCURACY IN CARDIAC PERCUSSION.

Delivered at St. George's Hospital,

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GENTLEMEN,—You may have wondered at the time you have seen me devote to mapping out the area of cardiac dulness in cases of heart disease, and in making exact tracings on transparent paper of the outlines obtained. It is comparatively easy work to determine by inspection, by palpation, or by auscultation the position of the heart's apex, and often enough the information thus gained suffices for practical purposes. Why, then, go beyond this elementary method of examination? For two reasons: because we can learn much more concerning any one heart from a complete examination, and also because it is only by assiduous practice in examining many hearts that we can acquire *unerring precision* in the results of our percussion. Moreover, when we have with some labour defined the exact size of the heart, it is of value to make the record a permanent one, and to keep in hand the means of comparing it with the results of future examinations. And here, again, since the process of transferring to paper the lines of percussion-dulness requires scrupulous care and accuracy, experience such as will render this method reliable in our hands is not attainable without frequent practice. Inasmuch as comparatively few of you have been associated with me in carrying out these methods, I shall not be taking up your time in vain by describing them in detail.

I. *The Methods for determining the Absolute and the Partial Cardiac Dulness; Sansom's Plexímeter.*

The *line of absolute cardiac dulness* is determined by finding the resonant margin of the lung. Starting from absolute dulness we listen for the earliest indication of resonance. For this purpose strong percussion is not necessary or desirable; it need not, however, mar the result. In determining the *line of partial dulness* the process is reversed; our search is not for resonance, but for a dulness so slight that it is more easily missed than found. The louder the resonant note we elicit by percussion, the less likely are we to catch the dulness with precision, if at all. It is only by getting the least possible sound out of the lung that we can succeed in appreciating the loss of vibration produced by the underlying heart. An accomplished percussor will use the most delicate touch in this part of the physical examination, and will probably succeed, with the help of great attention and of a fine ear; but his task would presumably be lightened if he could lessen the loudness of pulmonary resonance yet more than the ordinary percussion avails to do. This is precisely the function of the *plexímeter*. The common objection made to all instruments of this kind lies in the alteration which they introduce in the note of the part percussed. This fault becomes an advantage in the special instance which we are considering. If any plexímeter be struck whilst held up between the fingers, it will yield a definite note, always the same for the same instrument. When the chest is struck through its means, the same vibrations will be set up, and their sound will add itself to the sound special to the chest at that spot. Pleximeters have hitherto been almost invariably constructed of some hard material, of high molecular tension, and therefore yielding short, high-pitched vibrations. Their effect then is a dulling of the more sonorous and deeper waves arising from direct percussion, by the addition to them of vibrations of higher pitch. The thicker the plexímeter, the denser its material, and so much the greater will be the damping effect. The desideratum would be a plexímeter of such a material and of such dimensions as to produce just enough dulling of the pulmonary note and no more. This requirement is fulfilled in a plexímeter invented by Dr. Sansom, through whose kindness I am able to give an illustration which will shorten its description. (See Fig. 1.) The instrument consists essentially of a thin column of vulcanite, ending in two narrow flanges of unequal length (A and B). The longer flange (A), measuring an inch and a half in length and half an inch across, is generally used as the chest piece, and held firmly against the chest wall by the flat of the index and of the median finger on either side of the stem. For finer purposes it is often useful to reverse the position of the instrument, so that the flange B, which is only three-quarters of an inch long, becomes the chest piece; this enables us to percuss very small areas. In addition to its small size and portability, the advantages of this form of plexímeter are many, and the better to be appreciated the more it is used. Its narrowness permits its adaptation to the intercostal spaces. Again, owing to its thinness, the chest piece allows the vibrations to be transmitted to the finger-pad resting upon it, some of the tactile advantages of finger percussion being thus retained. But in connexion with cardiac percussion its chief value arises (1) from its action as a mute for the sonorous vibrations and (2) from the straight and flat outline of the chest piece. However superior for percussion in other ways, the finger is ill-adapted for the purpose of *defining a line* of dulness, for if it be not pressed sufficiently firmly the vibrations may not be elicited from the deeper parts, and if too firmly then the neighbouring chest surface will be set into vibration as well, and the outline which is sought will be obscured. The plexímeter has a constant conducting power, not varying, as does that of the finger, with the degree of pressure. In the second place, it need not be applied otherwise than lightly, and does not then convey the influence of percussion beyond the surface which it covers. Being, moreover, narrow and straight, it is adapted to the finding of lines of dulness where they exist, and may in addition be helpful in drawing straight lines on the chest and as a means of measuring short intervals of space. This is not the place to dwell upon the advantage of its employment in percussion of other organs. As regards only the study of the heart, the delicacy and the sharpness of its data are such that few who will thoroughly test its capabilities are likely to give up its use. Far be it from me to minimise the *importance of precision* in the percussion of any organ; there are, however, special reasons why a high degree of precision should be cultivated in cardiac percussion. One of these has reference to the small size of the heart, another to its deep situation within the chest, and a third to the great importance of the diseases to which it is liable. In connexion with the lung, we often deal with conditions the diagnosis and the prognisis of which are not affected by a range of error of a quarter of an inch. Lobar pneumonia and pleural effusions belong to this order. But with so much smaller an organ as the heart errors of trifling measurement are relatively considerable. It matters greatly whether the left ventricle be a quarter of an inch longer or a quarter of an inch broader than it should be. Both with regard to the importance of the organ and to the difficulties of any examination of it, accuracy is here not a matter of choice but of duty. Is it, however, possible to reach this necessary degree of accuracy with outwardly so rough a method as that of percussion? I can remember the time when I doubted the capabilities of the latter as much as any of you, but at the cost of some trouble I have now satisfied myself that we may claim this as a scientific clinical method. Each of you with sufficient practice can arrive at the same conclusion, but you must not expect to find others as confident in your powers as you may have won the right to feel. It may be said, as of other arts, that the art of percussion is not transferable, but must be personally acquired. Therefore it is possible that much of the scepticism as regards percussion may have arisen in the sceptics from a strong sense of their own failures, and that it might be improved away by the success which would attend further practice and proficiency.

FIG. 1.

Sansom's Plexímeter.

The boundary between the cardiac dulness and the hepatic.—As an instance of the lingering distrust of percussion or of the under-estimation of its powers, let me refer you to a statement found in all the recent text-books on percussion which I have consulted, to the effect that the cardiac dulness cannot be separated by percussion from that arising from the liver. I venture to hold an opposite opinion, and I can

without any diffidence submit it for your adoption, because I have time after time checked its correctness experimentally—that is, by post-mortem verification. Not only are we well able to accurately mark off the absolute hepatic dulness from the absolute cardiac dulness, but within the latter we recognise a zone where the dulness due to the heart is modified from behind by the underlying convexity of the liver. Thus, in spite of the overlapping of the two organs, we can, if we choose, succeed in mapping out by percussion the full outline both of the heart and of the liver. We are all familiar with the areas of *incomplete* or *partial hepatic* dulness and of *absolute hepatic* dulness found by percussion in the right infra-mammary region. The lines which define these two areas possess practical value in cardiac as well as in hepatic percussion, and as they will often be mentioned it will save any confusion if we at once propose for them the names *supra-hepatic* (SH) and *hepatic* (H) respectively. We shall find that these two lines

FIG. 2.

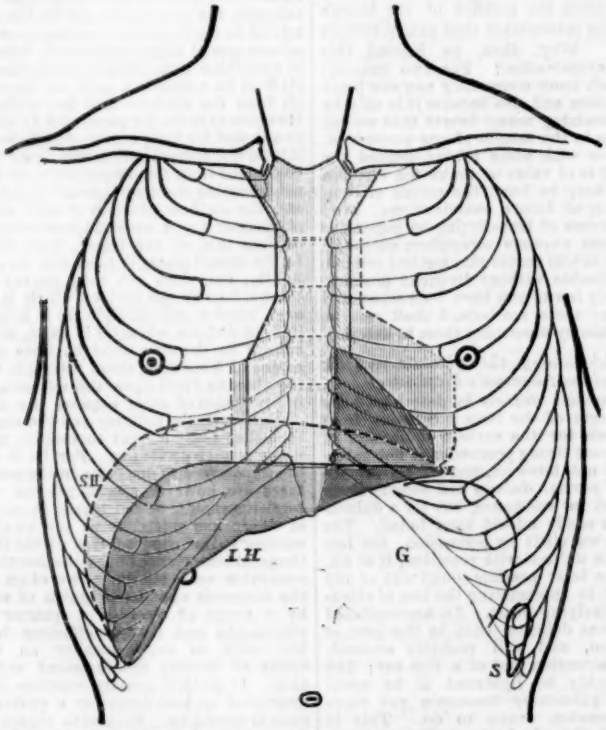

Diagram showing the partial and the absolute hepatic dulness, and the partial and absolute cardiac dulness. G, Thoracic area of gastric resonance. S, Area of splenic dulness. X, Site of cardiac apex. I H, Inferior hepatic line. S H, Supra-hepatic line. H, Hepatic line.

are not restricted to the right infra-mammary region, but that they can be followed across from one end of the hepatic dulness to the other. (See Fig 2.) The alleged and too readily assumed inability to tell off the cardiac from the hepatic dulness leaves the lower boundary of the heart ill defined. The resulting obstacle to a complete study of the heart by percussion has been keenly felt by clinical observers, and various rules have been devised for filling the gap. The simplest, and, as it seems, the most reliable expedient would be to find out and mark the seat of the *apex beat*, and, on the other hand, of the *hepatic line* of absolute dulness in the right nipple line: a line drawn through these two points should coincide with the boundary line between the cardiac and hepatic dulnesses. Whenever the apex beat can be made out with certainty, this method is available and practically sound. But a doubt sometimes arises as to whether the impulse felt is really that belonging to the apex, and too often also there is not any palpable impulse. Again, a safe determination of the level of hepatic dulness presupposes an amount of skill in percussion which might be better employed in carrying out more thorough methods to be described later on. According to Friedreich's method, which is based upon the relation of the heart to the thoracic wall, the lower boundary of the heart would be found by drawing a line from the sixth right chondrosternal joint to a spot on the left sixth rib immediately beneath the apex beat. This method is also adopted by Guttmann,[1] Professor Constantin Paul[2] proposes to adopt the level, not of the absolute, but of the partial hepatic dulness in the right nipple line, as defining the spot which should be joined to the apex beat in order to obtain the demarcation. This, however, would require on the part of the percussor a more difficult feat than C. Paul himself had elsewhere declared to be practicable.[3] He does not fail to foresee this objection, and falls back on the thorax as a guide. Unfortunately, in his endeavour to improve upon Friedreich's rule, but, in strict consistence with his own choice of the supra-hepatic line as a guide, he substitutes the fifth right chondro-sternal joint for the sixth. The line thus obtained does not, in my experience, correspond with the anterior heart and liver boundary (with which, one would think, clinical observers were most concerned), but rather with the diagonal line passing from the left anterior to the right posterior extremity of the heart's inferior surface. Constantin Paul is not explicit on this point, the reader being left in danger of serious anatomical and clinical misconception; but his illustrations seem to leave little doubt that the line in

[1] A Handbook of Physical Diagnosis. New Sydenham Society's translation, 1879, p. 254.

[2] Diagnostic et Traitement des Maladies du Cœur, pp. 24, 25, Paris, 1883.

[3] Constantin Paul refers with some incredulity to the method of demarcati n by unaided percussion suggested by Professor Burresi (Lo Sperim., 1871), by Professor Concato, and by Barety (Topographie des Organes Thoraciques, 1873).

question is meant by him to indicate the anterior boundary. Enough has been said to render it clear that no reliance is to be placed upon conventional landmarks taken on the ribs or sternum. The relation of the latter to the viscera are not invariable even in health; but in diseases of the heart variation almost always occurs, and thoracic landmarks go for nothing.

The hepatic line.—Our only safe guide, which can never mislead us as to the level of the apex and of the inferior cardiac impulse, is *an accurate percussion of the boundary between the absolute cardiac and hepatic dulnesses.* Piorry long ago pointed out that a knowledge of the situation of the liver was the first step towards the determination of the cardiac area. In spite of his great skill in percussion, he does not appear to have relied upon the latter in this instance. We purpose now not only to revert to his principle, but to trust entirely to percussion for its realisation. It is sufficiently obvious that the boundary line which we seek can be more readily reached from below than from above; in other words, that the hepatic dulness is easier to determine than the cardiac, the reason being that in the case of the right hepatic lobe, the dulness of which is in strong contrast with the resonance of the lung above it, no difficulty in demarcation can be said to exist. Being quite sure of the position of the *hepatic line* of absolute dulness at its right extremity we can the more readily determine its position further towards the left. Indeed, after slight practice this operation can be carried out with great ease and rapidity, and without any doubt as to the reality of the distinction between heart and liver, especially if Sansom's pleximeter be used. In most healthy subjects it will be noticed that the liver passes almost horizontally across the apex of the infra-sternal angle; and without departing from the principle of individual percussion in each subject, we shall find this knowledge a help in completing the demarcation in a majority of cases, and in estimating the amount of abnormality in those in which the line is either depressed, or, as is less frequently observed, raised above the normal level. Whenever a true apex beat can be felt on palpation, the seat of impulse will be found to be exactly above the left extremity of the hepatic line. This concordance may be taken as a test of the correctness of the percussion, and also as demonstrating that the line of demarcation thus obtained has reference to the anterior plane of the thorax.

The supra-hepatic line.—Hitherto we have considered the absolute hepatic dulness. The partial hepatic dulness requires finer percussion, but its determination is conducted in strictly analogous fashion. This part of the examination does not lack practical or theoretical interest both as regards the liver and the heart, although not so absolutely essential for cardiac demarcation. A liver may be more or less convex, and the partial dulness may therefore rise more or less above the level of the absolute dulness. The interval between the supra-hepatic and the hepatic lines is a measure of the antero-posterior inclination of the heart, and enables us also to judge of the obliquity of its longest diameter, which extends from the inferior vena cava to the apex. We are made to realise that the supra-hepatic line is, quite as much as the hepatic, a line of demarcation between the two organs, but that it belongs to a posterior thoracic plane; and that between these two lines many others might be drawn, each corresponding at different depths within the chest to the cardio-hepatic boundaries. None of these, however, is indispensable except the hepatic line or lowermost boundary of the heart.

The different zones of cardiac and of hepatic dulness.—In percussing, it will be noticed that where the partial hepatic dulness is overlapped by the cardiac dulness the latter is intensified. For this reason the lower zone of absolute cardiac dulness is duller than the upper. Nevertheless, so complete a dulness does the liver produce when in immediate contact with the thoracic wall that the compound cardiac dulness just mentioned is perceptibly less dull than the absolute hepatic dulness. At any rate, this is always the case on the right side of the the middle line. This apparent anomaly is readily explained from the fact that the heart conducts a good deal of resonance from the lungs. On the left side of the middle line, however, things are *completely reversed.* Whilst the heart gains in antero-posterior depth the vertical thickness of the liver is fast diminishing. Moreover, the left lobe of the latter covers the cardiac end of the œsophagus in the infra-sternal angle and the cardiac end of the stomach (Fig. 2, G) to the left of the same angle: from this source it acquires comparative resonance, so that the term *absolute hepatic dulness* is no longer appropriate, the cardiac area being now the duller surface. This reversal of the percussion values is without importance as far as demarcation is concerned. The hepatic line can be followed across with absolute precision, in spite of the interchange which has taken place above and below it. The complication which has just been pointed out may have been for many observers an element of confusion; it is probably answerable for the prevailing impression that the cardio-hepatic boundary is incapable of being traced by percussion. To the beginner it may still occasion some perplexity; but for you there need now exist neither doubt nor difficulty, so long as you keep clearly in view the separate influences which I have endeavoured to analyse.

The cardiac apex in relation to percussion.—If percussion be now carried further to the left beyond the seat of the apex beat, the discovery of the semilunar gastric resonance (G), extending from the seventh to the ninth cartilage, will lend confirmation to the explanation given above for the reversal of dulness. The left extremity of the liver plays the part of a sounding board to this large resonant area. The cardiac apex is also in close proximity to the latter, and, being of relatively small bulk, will feel its influence the more. You will not be surprised, therefore, if the cardiac apex of which you can feel and see the beat, and which you might have expected to find decidedly dull because so near the percussing finger, is really excluded from the area of absolute cardiac dulness. Such is the rule.

The inferior hepatic border.—Before bringing to a close this brief sketch of the subject of cardiac and hepatic percussion, it is necessary to add that the determination by percussion of the inferior line of absolute hepatic dulness is not always as reliable as that of the upper line. This is particularly true in cases of hepatic enlargement, where the liver projects into a somewhat tympanitic abdomen. A considerable portion of the organ may, under these circumstances, borrow a resonant quality from the inflated intestine; it may even happen that, after defining to our satisfaction the lower limit of dulness, we may by palpation find the hepatic border to be one, two, or three inches below the estimated level. It is a good rule in all cases where hepatic enlargement is suspected to percuss for a standard of resonance very low down, in order not to miss the subresonant zone or to misinterpret its meaning. But in cases such as these percussion may be rendered unnecessary by palpation; and the latter, whenever applicable, must be regarded as the more reliable method.

The partial cardiac dulness.—Having clearly defined the lower boundary of the heart, in spite of difficulties which were alleged to be so great, you will find the rest of the delineation easy, and the use of Sansom's pleximeter will enable you to attain results much more accurate and complete, as well as more rapid, than finger-percussion would yield. You will discover that the auricular border of the heart extends further than is described, and in disease often decidedly further. Likewise, the left ventricular border will be defined with a precision the value of which will be apparent to you in cases of irregular dilatation of the left ventricle, when unexpected deviations from the normal outline will present themselves. The normal outline is shown in the diagram. The minimum size of the partial left ventricular dulness is indicated by an oblique and by a vertical line. The oblique line extends from the left third costal cartilage, not quite one inch from the sternum, to the fourth costo chondral joint; the vertical line, from the latter to the apex beat. These landmarks are really only approximative, but will very closely agree with the boundary found by actual percussion. In a few cases an outer zone of very faint dulness will be found beyond the oblique line, its upper boundary being parallel with the latter. In disease the left ventricular dulness may become absolute instead of partial, and it may extend some distance beyond the nipple line.

The prevascular region.—Lastly, the prevascular region, so important in the diagnosis of disease of the aorta and in mediastinal diseases, will yield to careful percussion with the pleximeter details not easily obtainable by the finger method. This region presents in a special degree the complication arising from conducted sonorous vibrations, to which allusion has already been made. The upper half of the sternum, yet more than the lower, acts as a sounding board to the sounds of pulmonary percussion. Indeed, the transmission of sonorous waves is here direct, and makes it impossible to obtain the dull note proper to the great vessels and other mediastinal structures. This obstacle

cannot be overcome even by the pleximeter; yet it is materially lessened by the latter. In all chests slight comparative dulness is found to correspond to the dense bony and cartilaginous masses of the manubrium, of the head of the clavicles, and of the first rib, behind which the great veins and arterial trunks diverge to the head and upper limbs. Below the second rib the dulness is even less in degree and narrower in extent. Below the third rib the surface broadens out again into the much wider area of cardiac dulness. The width of each of these three segments varies little in different persons, except when disease exists. It will be found on careful percussion that the left side of the prevascular dulness from the left sternal border outwards is decidedly more dull than the right; indeed, this lateral strip is the only dull part properly so-called, the sternal surface being better described as subresonant. The narrow strip of dulness (measuring barely half an inch across) is continuous with the upper part of the absolute cardiac dulness. It is dull owing to the fact that the left chest contains rather more than half the bulk of the great vessels, and that the left pulmonary fringe covering them is thinner than the corresponding right fringe, and does not extend, as does the right, across the greater part of the posterior surface of the sternum. The strip of dulness is usually flanked externally by a subresonant strip continuous with the partial dulness of the left cardiac area. The left-sided position of the prevascular dulness in health gives special significance to any increase of the dulness towards the right, such as is observed in aortic dilatation and in aneurysm of the ascending aorta.

II.—*The Method of taking on Paper Tracings of the Lines obtained by Percussion.*

In recording the results of percussion, diagrams are the means of saving time and of cultivating accuracy. The full-sized diagrams printed off the chest have this advantage over all others—that their lines are absolutely true and do not require the use of a scale of measurement. Smaller diagrams are apt to vary in size when several are taken in the same case at intervals of time. The lines in the full-sized tracings vary just as much as the chest and no more. They are therefore capable of superposition. By holding up to the light two superposed diagrams (the best means is to spread them against the glass of the window) any modifications which time may have effected in the outline of dulness come into view. I have been in the habit of using sheets of tissue paper long enough to reach from the cricoid level to the lower umbilical level, and sufficiently broad to cover the chest from one anterior axillary line to the other. If broader, the paper will have to be incised to fit the axilla; and in any case a short vertical median incision at the root of the neck is necessary, in order to obtain a flat surface. Before applying the paper the outline of dulness should be marked on the chest in lines sufficiently black to be read easily through the paper; and to these must be added certain anatomical lines useful for general reference and indispensable for comparing the tracing with future tracings by superposition, or with the chest itself by readaptation. The following landmarks should be traced on the skin with scrupulous accuracy—viz.: (1) the episternal notch, including the head of the clavicle on either side; (2) the infra-sternal angle; (3) the xiphoid cartilage; (4) the costal arch; (5) the nipples, or, failing these, the mid-clavicular line; and (6) the umbilicus. An assistant seated behind the head of the patient (who is recumbent) now adapts the paper to the chest and holds it firmly in position with the flat of both hands applied horizontally along the outer pectoral or the axillary regions. It is essential that until the tracing is completed (an operation which need not exceed a duration of two or three minutes) the assistant should not alter his position in the least, much less raise his hands; this would be fatal to the accuracy of the tracing. The diagram is to be immediately dated and provided with the observer's name as well as the patient's name, and with any explanatory remarks which the case may suggest. In comparing tracings taken at long intervals from one and the same patient, though the nipple markings may agree, some of the anatomical lines which have just been described may fail to correspond in the two diagrams, simply because the size of the chest and of the abdomen are liable to alterations which may be purely physiological. The length of the sternum, however, does not vary; and by utilising the tracing of the episternal notch of the infra-sternal angle and of the umbilical line, we shall obtain an identical basis for any future tracings.

A CASE OF

UNIOCULAR PROPTOSIS WITH INTRA-CRANIAL BRUIT AND OPHTHALMOPLEGIA; LIGATURE OF CAROTID; RECOVERY.

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A LAD aged thirteen was admitted into the accident ward of Addenbrooke's Hospital on Oct. 6th, 1890, suffering from a fractured thigh, and with signs of severe concussion of the brain. He was collapsed, and quite unconscious; pupils equal, with normal reactions. Bloody fluid issued from the left ear. During the evening he was very noisy, tossing and shouting out loudly, yet his pulse remained much the same and his extremities were cold. He vomited some blood. The following day he was more conscious, but very refractory and difficult to keep in bed. His pulse remained small and irregular. Ten grains of bromide of ammonium seemed to be useful. On the 8th he was better, and especially improved as to the pallor of his face and the pulse beats. Double ptosis was noticed, more marked in the left side. Three days later he still remained in a stupid, fretful state, but without pain; pulse quicker; ptosis marked, and left pupil enlarged. On the 16th he was very fretful and stupid; no headaches or pains; dilatation of both pupils. On the 28th there was an improvement in disposition; less ptosis, and both pupils dilated. In the evening, after a cheerful and even playful day, he was suddenly seized with pain in the neck and occiput; and stiff retraction of the neck, with the head thrown back, and the boy screaming in agony, gave much the appearance of tetanus; the alteration in the expression of his face from the ptosis also suggested a tetanic spasm. No other muscles were contracted, and the resemblance to tetanus merely describes his aspect. The boy continued in pain all night, occasionally screaming; he was only quiet for about an hour. Next morning there was œdema of the lids and proptosis of the left eye; no pulsation in eyeball or orbit; the retraction of the head and other signs as before. The occiput and posterior cervical region were acutely tender to the touch, and even the gentlest movement could not be endured. This attack seemed to be much relieved by the application of leeches to the temples, followed by quarter-grain doses of calomel every two hours. Gradual improvement took place in the urgent symptoms. The projection of the left eyeball and œdema of the lids, with filling of the conjunctival vessels, were more decided on the evening of the 30th, but he was able to lie easily and keep his neck bent forward. He was much quieter, the bowels acted well, and a good deal of sleep was obtained. On the 31st the improvement was maintained; the boy was quiet and sleepy, but could be roused to intelligence; there was still proptosis of the left eyeball, also double ptosis and dilatation of both pupils. He could count fingers easily in either eye. Six days later (Nov. 6th) there was general improvement, even in the eye and eyelid signs, until on the 16th he had a sudden attack of pain in the orbital region and increased proptosis, the lad putting his hand to his eye and screaming at intervals. Chloroform was given, and an incision was made through the upper lid into the orbit to relieve tension; an effusion of blood in the cellular tissue, with very distinct pulsation, was then noted. Auscultation of the forehead discovered a loud bruit, continuous but with reinforcement during the pulse; pulsation could be felt only for about an hour and a half; the upper eyelid was swollen by ecchymosis. The patient was irritable all day, but there was no more severe pain. The loud intra-cranial bruit was arrested by pressure on the left common carotid artery. Four minutes was the longest time attempted. Pressure on the right carotid made no difference. On ophthalmoscopic examination there were found in both fundi signs of optic neuritis; there was a blurred disc in the right fundus oculi, and in the left the margin was ill defined and in portions not distinguished.

A gradual improvement afterwards took place in all respects, the patient regained his natural manners and was perfectly sensible; his pupils were dilated and there was some ptosis, with signs of optic neuritis, and vision was somewhat impaired. The bruit on auscultation

of the head was to be easily heard. The explanation of this bruit is that, the base of the skull having been fractured in the region of the cavernous sinus, a communication had been made between the artery and the venous channel. There are many such cases on record, and some have been cured by ligature of the carotid, an operation which I was much tempted to perform in this case, and it might yet be necessary. It did not appear that the boy was annoyed by the noise in his head; he was doing so well in most respects that I did not consider myself justified in operating. The chief reason for urging an operation now was found in the precarious state of the vision. It is contended that ligature gives a better chance for recovery from the optic neuritis with restoration of vision. Unfortunately the optic neuritis has happened, is improving, and cannot easily be shown to be due solely to the communication which is supposed to exist between the internal carotid artery and the cavernous sinus. The painful retraction of the head and other signs described were probably due to basic meningitis. On Dec. 19th a violent attack of pain came on, which, though not so serious as before, was accompanied by much more proptosis and œdema of the lids on the left side. His mental condition seemed also worse. The left common carotid artery was accordingly tied on Dec. 21st. The effect was immediate cessation of the intra-cranial bruit, but alarming symptoms followed which threatened his life. During a month he was comatose, and could with difficulty be made to swallow fluids, and he passed his urine and fæces involuntarily (three weeks). The right arm and leg were rigidly contracted, and the right side of the face was paralysed completely. The operation wound healed in a few days with only one dressing. He lay helpless and unconscious, his right eyelid open, the eye covered always with secretion, so tenacious that in spite of care the cornea ulcerated somewhat. The left eyelid drooped, the eye was much less projected, movements of both eyeballs at one time were entirely absent, but there is now slight improvement in that respect. Gradually recovery took place, and now the lad is still improving. His mental condition is very feeble; he often uses wrong words, and has no ideas except in connexion with food. The ptosis and proptosis have almost disappeared. The movements of the eyeballs are very limited, and the right eye has always an inward squint. The opacity across the cornea is getting less. The left eye moves slightly in and out, but cannot keep in any other than the mid-position. The sight in each eye is very defective. There is no intra-cranial bruit. Some facial palsy of the right side and rigidity of the right upper limb, with flexion of the fingers, still remain. The leg is recovering pretty well.

The progress of the case has confirmed the diagnosis as to a communication between the carotid artery and cavernous sinus being the cause of the bruit and proptosis. The subsequent ophthalmoplegia externa, with ptosis, symmetrical but not simultaneous, was made much more evident by the ligature of the carotid, and points to clotting in the cavernous sinus and interference by pressure or contraction with the nerves to the eye muscles. The right-sided spastic hemiplegia was due probably to lesion of the corpus striatum or of the cortex, owing to the sudden cutting off the blood-supply by ligature of the left common carotid from a bruised and inflamed area of brain tissue.

Cambridge.

NOTES OF TWO HUNDRED CASES OF INFLUENZA IN SHEFFIELD.

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As it cannot be said that up to this the last word has been spoken on the subject of the clinical history of influenza, the following notes, compiled from fairly accurate observation of two hundred cases, may not be altogether uninteresting. In considering the features of the disease, we must of course allow for the fact that most statistics compiled by medical men refer really to the more serious cases, and that there was a vast number of milder cases that never came under professional observation.

I doubt if any medical man who has had extensive experience of influenza can fail to be impressed with its essentially infectious character. In the great majority of families where a footing was established it spread rapidly, until in many instances not a single member escaped, the period generally elapsing between the first case attacked and the appearance of the second varying from two to five days. In twenty-one families observed, the longest period intervening between the first and second cases was seven days; in three families the period was five days, in five the period was two days, and in four it was three days. The mode of its entrance certainly suggested personal infection, for in the case of households affected the disease was introduced by an adult female in thirty-two cases, and by an adult male in sixty-nine cases. The period of incubation appears to have been variable; many persons attacked complained of feeling ill for some days before the unmistakable symptoms set in; others, again, only a few hours.

The first symptoms complained of were a feeling of coldness down the back, less frequently shivering, pain in the frontal region of the head and very commonly in the occipital region as well, dizziness, aching in the limbs and "all over," much prostration, and frequently faintness. The above were the more common early symptoms. Of the less constant symptoms, in two hundred cases observed, there was a hacking cough present in ninety-nine cases, generally appearing about the second or third day, and often persisting many days after the other symptoms had disappeared. There was sore-throat with slight redness of the fauces in forty-one cases. There was swelling of the tonsils in six cases, and in one case extensive sloughing of those glands took place. There was nausea in many, which amounted to vomiting in forty-one cases. Diarrhœa was present in nineteen cases, and constipation in fifty. In eighteen cases there was epistaxis, in a few very profuse, necessitating plugging of the nares. In seven cases there was a well-marked rash, resembling generally sudamina, turned red, and often more like a small measles rash. In five cases there was some deafness, in one case almost complete. Congestion of the conjunctiva was sometimes observed, but I did not see it as frequently as is recorded by some observers.

As regards the duration of the disease, there was a considerable number of cases where it was difficult to draw the line of convalescence. Out of my two hundred cases, I find that fifty-eight were convalescent in five days or under. Of recoveries between five and ten days there were seventy-three cases; between ten and fifteen days there were twenty-one cases; between fifteen and twenty days there were sixteen cases; over twenty days seven cases. The last group would represent cases with some one of the usual complications, such as pneumonia, bronchitis, pleurisy, &c.

On looking over my temperature charts, I find that the temperature in the uncomplicated cases usually ranged from 100° F. to 103°, the commonest being from 101° to 102°. The following are the highest temperatures reached in one hundred and thirty uncomplicated cases. There was no rise of temperature in three cases; it was between 98·5° and 100° in eleven cases; between 100° and 101° in twenty-six cases; between 101° and 102° in forty-three cases; between 102° and 103° in twenty-six cases; between 103° and 104° in fifteen cases; between 104° and 105° in five cases; and between 105° and 106° in one case.

It would be too tedious to go into full details as to the pulse rates, but in examining my notes I find that, on the whole, the relation of pulse to temperature was not abnormal. In a few cases the pulse was relatively much too rapid, and in a few strikingly slow; but in the vast majority of cases the pulse rate had a natural correspondence to the temperature. On the other hand, great weakness of the pulse, a tendency to fainting, and marked cardiac debility were among the most distressing and alarming symptoms of the disease.

Coming now to the rarer complications, I find there was suppression of the menses in two cases; menorrhagia in one case; abortion in two cases; irregularity of the pupils in three cases; marked drowsiness in several cases; convulsions in a couple of cases where infants were attacked. Of the graver complications, bronchitis was by far the commonest; as a rule, there was comparatively little expectoration, but the cough was troublesome, and frequently almost incessant.

I find, on looking over my cases, that during the epidemic of this year there has been relatively much less pneumonia than in the epidemic of 1890. This, I believe, is mainly

due to its appearing much later this year, and to the absence of the very cold weather that accompanied the epidemic in the early part of last year. Out of 160 cases of influenza in my practice this year, pneumonia occurred in but six cases, and of these only one presented the features and ran the course of ordinary classical pneumonia. The other five corresponded more to hypostatic or congestive pneumonia, with imperfect dulness of both bases, but a light crepitation, and a large area over which no breath sounds could be heard. With one exception they all ran a protracted course, with great prostration and considerable delirium, and in the case of two the diagnosis between influenza-pneumonia, and typhoid fever was for some time doubtful. There is no doubt that a slight degree of pleurisy complicated a large number of cases, but in a severe and extensive degree it occurred only in 2 per cent. of my cases.

On the whole, comparing the epidemic of this year with that of 1890, I would say, from my personal experience, that it was very much more widespread, that severe chest complications were much rarer, and, in proportion to the number attacked, the mortality was considerably less. Of those attended during the last epidemic, two died of pneumonia, one of acute bronchitis, one of convulsions, and one from syncope following severe sloughing of the tonsils and persistent vomiting. The mortality in the cases of uncomplicated influenza was *nil*. This compares very favourably with my mortality returns for the epidemic of 1890. The death-rates in all the towns visited by influenza show a high rate of increase, but in no town has the increase been so marked as in Sheffield. At first sight this was hardly to be expected, for the expanses of moorland that surround it have always been looked upon as favourable to the health of the town. The immediate explanation seems to me to be contained in the fact that the normal death-rate from diseases of the respiratory organs is in Sheffield higher than in most other large towns. In the year 1889—that is, before the first epidemic of influenza—the death-rate from diseases of the respiratory organs (not, of course, including phthisis) was 4·45 per 1000—a rate, as far as I can make out from examination of the annual reports, considerably in excess of the rate of mortality from the same causes in most of the other large towns. When we remember that influenza has mainly been fatal through its effects upon the organs of respiration, the high rate of mortality during the epidemic in Sheffield, exceeding as it did in one week over 70 per 1000, is not to be wondered at. To explain the unusually high death-rate from pulmonary diseases, it will not suffice to point to the influences of special trades in the town; for, owing to the introduction of machinery and the comparatively little dry grinding now done, cases of grinder's phthisis are rare. What seems to me the most probable explanation is the situation of the town itself. It is built along the bottom and up the sides of a series of valleys that converge towards the centre of the town. Under such conditions the air is not continually changed as it would be in a town built on an open plain, but the currents move sluggishly in the valleys between the hills. This condition is further aggravated by the circumstance that the large works that create most of the smoke are situated to the east of the town, and during the spring months the wind blowing persistently from that quarter carries with it dense masses of smoke, which become imprisoned in the valleys and hang like a thick pall over the lower quarters of the town. Under such circumstances one can easily imagine how infection, when once introduced, cannot easily be dissipated and gains a maximum of intensity.

Since writing the above my attention has been called to an address delivered by Dr. Gairdner before the Glasgow and West of Scotland Branch of the British Medical Association on Jan. 23rd, 1890, in which he alluded to an article which appeared in the *St. James's Gazette* of Jan. 21st, in which its writer points out that both in London and on the Continent the growth of epidemic influenza had been accompanied and preceded by unusual stillness of the atmosphere, and that its decline had been coincident with, and very probably due to, the replacement of stagnation by movement. Further, M. Descroix, of the Mont Souris Observatory, calls attention to the fact that during the last four months of 1889 there was very considerable stagnation of the air; whilst at Greenwich the aggregate horizontal movement of the air for this period was 5846 miles below the average of the last sixteen years. The week during which the epidemic established itself in London was a particularly stagnant one. On Jan. 5th there was a gale, followed by a strong wind all the week, and another gale on the 10th. During that week the epidemic began to abate, and its continued decline was accompanied by windy weather.

Sheffield.

REMARKS ON INFLUENZA AND ITS COMPLICATIONS.

BY EDWARD A. PIGGOTT, L.R.C.P. & S. EDIN., &c.

DURING the months of April, May, and June of the present year I have had a considerable number of cases of the disease known as influenza under my care, and as there has been much discussion both as to the nature and nomenclature of the disease, these remarks may not be out of place. The term "influenza" to my mind conveys a very imperfect description of the disease—a disease which assumes such variable symptoms. "Epidemic catarrhal fever" is without doubt the most scientific definition in vogue in this country, but even this is far less expressive than the French nomenclature—viz., *la grippe*—the extreme suddenness of the attack eminently justifying such a designation. Some short time since, a correspondent to THE LANCET suggested that the disease should be called "epidemic pneumonia," a term applicable to a great number of cases one meets with in an epidemic of so-called influenza; but pneumonia is not by any means a general complication of the affection. There is doubtless more or less tendency to chest mischief in almost every case of specific influenza, but certainly only a small percentage of the cases could be termed "pneumonia."

One peculiarity of the disease appears to be, that the height of the temperature, as measured by the clinical thermometer, bears little or no relative value in diagnosing a severe attack. The mercury may, at the onset of the disease, reach 104° or even 105°, which circumstance in the exanthemata would lead one to suspect the case to be of a serious nature: but in influenza, in twenty-four hours or less, it has fallen almost to its normal standard. I have had one or two cases where there was a persistent rise of the mercury in patients of advancing age and subject to chest and laryngeal affections. In these instances the disease appeared less amenable to treatment, and the nervous depression and bodily prostration were most apparent. The epidemic assumed a type of much greater severity in this district during the months of May and June than at any previous period. In 1890 the cases seemed altogether of a milder character and more widely scattered. The outbreak was announced by the appearance of a few sporadic cases in the month of April and early part of May, soon to be followed by a most decided epidemic, which in several instances attacked every member of a household. The general type or case was influenza pure and simple, but amongst the number were several which exhibited a more or less unusual train of symptoms, inclusive of the following.

CASE 1.—J. G. H——, aged about forty-two, male, had occasion to drive a distance of eight miles in an open dog-cart on June 9th, without an overcoat, contrary to his usual custom. On the evening of the same day he was seized with a distinct rigor; and the following morning, after passing a restless night, the pulse was 130, temperature 104·2°, tongue furred, bowels constipated, with well-marked muscular pains in the back and limbs; there was anorexia, with a feeling of nausea and pain at the epigastrium, slight cough, with a sensation of constriction across the chest. He was confined to bed, linseed poultices applied, and a saline expectorant mixture prescribed. On the morning of the 11th my attention was called by the patient to the condition of the urine, which from its "smoky" appearance alarmed him. Upon microscopical examination I found numerous blood-discs and epithelial casts; heat and nitric acid demonstrated a large percentage of albumen. The pulse and temperature remained high; bowels obstinate, for which an aperient was administered; the diet consisting of beef-tea, milk, soda-water, &c.—12th: General improvement.—13th: The acute symptoms had so far subsided that the patient was able to leave his bed and take exercise in the garden. From this time the quantity of albumen in the urine gradually diminished, the kidneys resuming their normal action. Convalescence was uninterrupted, though

slow. I may add that there was no previous history of renal disease.

CASE 2.—A child (male) aged one year and ten months was, on June 9th, suddenly taken ill—as the parents supposed, in a "fit." The boy, a robust healthy-looking little fellow, was upon my visiting him completely unconscious, with stertorous breathing, the conjunctival reflex being entirely absent. Temperature 105°; pulse 140. Ordered a warm bath, with mustard plaster to the nape of the neck; to take two grains of calomel on the tongue, and, when able to swallow, a mixture as follows: two grains of bromide of ammonium with five minims of aromatic spirit of ammonia, every two or three hours. 10 P.M.: Temperature 100°; pulse 120. Recovered consciousness, but very restless; bowels relieved; conjunctivæ injected.—10th: At 10 30 A.M. the temperature and pulse were normal, and the little patient had practically recovered.

CASE 3.—C. W——, aged forty-four years, wheelwright by occupation, was taken suddenly ill on May 19th. He had sharp pains in the back and limbs, intense headache, with vomiting of bilious matter; the conjunctivæ were injected and insensitive, with stertorous breathing. Pulse 120, very weak; temperature 103°. Upon attempting to get to bed he had fallen on the floor in the above condition. Four grains of calomel were ordered at once, and strong mustard sinapism to be applied to nape of neck.—20th: Slight improvement as to nervous symptoms. Sufficiently recovered to take nourishing liquid diet; pulse and temperature remaining high. The case proved one of a most lingering character. The patient, after being confined to bed for three weeks, was unable to resume his employment until the end of five weeks from the date of attack. On July 21st the subject of these remarks went to work as usual, but had scarcely commenced his employment when he complained of feeling ill. He vomited some bilious matter, and went into the house with the intention of lying down. Some fifteen minutes afterwards he was discovered dead in his chair. The cause of death was unfortunately not verified by post-mortem examination. In the absence of such it is natural to suppose that an attack of syncope caused the sudden extinction of life.

As regards treatment, I found in the majority of cases that a simple saline expectorant, with nourishing and stimulating diet, were all that was required, together with the assiduous application of *hot* linseed poultices to the chest, which, I feel satisfied, saved many of my patients from bronchial complications.

Clare, Suffolk.

ON SOME EXCEPTIONAL CASES OF OPERATION FOR CATARACT.

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THE following five cases of operation for cataract I have selected as exhibiting certain features of exceptional character which appear to me to be suggestive or instructive:—

CASE 1. *Dislocated lens becoming cataractous; successful extraction without iridectomy or loss of vitreous; good vision: subsequent retinal detachment; recovery, with good vision.*—Mrs. Mac L——, aged sixty, in 1885 sustained an injury to the right eye with a stone. On consulting me on March 18th, 1886, she was found to be suffering from dislocation downwards of the right lens. The lens was then nearly clear throughout; there was iridodonesis; no cyclitis or increased tension; vision $\frac{6}{18}$. In November of the same year the lens had become partially cataractous, and though there was no pain the partial vision was troublesome and distressing. I advised extraction when the lens was completely cataractous, at the same time warning her of the possible failure to effect a successful extraction owing to the dislocation. On May 20th, 1887, the cataract was ripe, and under cocaine I proceeded to extract. I avoided the use of a speculum. After completing the section (a sclero-corneal one) the upper arc of the iris exhibited slight eversion showing uvea; on inserting iridectomy forceps it was evident that the hyaloid was ruptured and vitreous just presenting in the wound. I immediately withdrew the forceps, and, discarding an iridectomy, passed a fenestrated spoon through the pupil behind the cataract (which appeared very deep as the patient lay on her back), and successfully delivered the entire lens. No vitreous escaped, and no prolapse of the iris occurred. Healing took place without any complication, and one month later vision with right eye = $\frac{6}{9}$ c. + 10 D. sph. + 2 D., cylindrical axis 10° down and in; and J. 1, c + 15 D. and cylinder. Ten days later, having returned to the country, and having resorted to the undesirable pursuit of spudding thistles on the lawn, which necessitated stooping, I learnt there had been sudden partial loss of vision in the right eye. On her return to town I found the eye looking well; no iritis, no iritic prolapse, pupil nearly central and clear; but I found detachment of the retina over the outer and lower part of the fundus, and commensurate scotoma. The detached area gave a luminous projection, correspondent with its extent, in the dark. Absolute rest, dry cupping, and purgation, and the use of spectral green glasses, were followed by complete restoration of vision and subsidence of the detachment.

CASE 2. *Morgagnian cataract; other eye blind; escape of fluid cortex on capsulotomy; subsequent couching of nucleus, with restoration of vision.*—Isaac A——, aged sixty-six (admitted to the London Temperance Hospital), a labourer from Wiltshire, had undergone cataract extraction for the right eye at another hospital some years previously. Iritis had followed, and the pupil was closed by synechiæ to relict capsule; tension *minus* and vision bad p.l. The left eye presented an apparently ordinary though unusually pearly-white cataract, opaque up to anterior capsule; pupil active, tension normal, and vision = p.l.—Oct. 31st, 1890: I proceeded to operate under cocaine with a view to extraction of cataract from the left eye. All went normally until the capsulotomy, when an unusually large escape of milk-white fluid cortex occurred, reducing the capsular contents to certainly less than one-half. The usual curette manipulations failed to effect the delivery of the opaque nucleus, which fell back, owing presumably in part to antecedent rupture of the hyaloid for vitreous presented at once. In view of it being practically his only eye, and not having a suitable scoop at hand, I elected to close the eye, having secured absence of entanglement of the iris and coaptation of the edges of the wound. There was no inflammatory reaction, and a fortnight later there was clear coloboma upwards; but the opaque nucleus was opposite the central portion of the pupil and movable with ocular movements, but only to the extent of very slight excursion; tension – ½ V. p.l. I opined that any further operation which should require lineal corneotomy and aqueous and possibly vitreous escape would be unadvisable and probably disastrous, and therefore decided to couch the nucleus. Four weeks later, under cocaine, I couched the nucleus through the cornea, effecting reclination rather than declination, a remaining hinge-like attachment to the suspensory ligament below assisting this manœuvre by way of fulcrum. No irido-cyclitis or pain followed; and with appropriate glasses the patient could, three weeks later, and can still, read J. 10, and can go about by himself, which he had not been able to do for ten years.

CASE 3. *Double cataract; large innominate and aortic aneurysm; extraction (both) uncomplicated; excellent vision.* Emily B——, aged fifty-three, was admitted to the North-West London Hospital on March 21st, 1887, with mature cataract in left eye, and advancing cataract in right. There was good p.l. in left, and pupil was active and tension normal; the vision of the right was reduced to that of large objects and J. 20 type. The patient was found to present a large aneurysm occupying the arch of the aorta, the innominate, and the first portions of the right subclavian and carotid arteries. She suffered from attacks of angina pectoris and from orthopnœa.—March 23rd: Modified linear extraction, with iridectomy performed on left eye. No complication.—April 13th: Vision, left eye $\frac{6}{9}$ c. + 10 D. $\frac{6}{6}$, and J. 1, at 20 cm. c. + 15 D.—July 4th, 1888: The right cataract having become mature, I extracted it under cocaine; there was a moderate posterior staphyloma of this eye, but her vision after the operation was J. 1 at 22 cm.

CASE 4. *Sudden movement during iridectomy under cocaine causing tearing away of major portion of iris; subsequent extraction of cataract under chloroform, with excellent vision.*—MRS. J——, aged sixty-five, with mature cataract of right eye, and immature cataract (preventing ordinary reading) of left eye, was placed under cocaine on Oct. 24th, 1887. An assistant held the eye with fixation forceps preparatory to the iridectomy; the moment the iris was seized

with the iridectomy forceps the patient closed her eye, forcibly extruding the speculum, tearing away from fixation the forceps, and leaving the major portion of the iris in the iridectomy forceps. This happened, as she explained, because "she thought it was going to hurt." She was in a highly nervous state, and, having ascertained there was no iris entangled in the wound, and that the aqueous chamber was full of blood, I elected to postpone further procedure unless and until she were placed under chloroform. Leeches were applied to the temple and iced boracic pads. There was surprisingly little reaction and pain; the hypæmia cleared up rapidly, and in the following June I successfully extracted the lens under chloroform, and the vision was two months later found to be $\frac{1}{3}$ c. + 7 D. sph. + 1·50 D. cyl. axis horizontal, and J. 1, c. + 13 D. and cylinder. In June, 1888, the left cataract having matured, I extracted this with iridectomy, under chloroform, and with glasses she can at the present time read J. 1 at 22 cm. with each eye. This patient was typical of a class whose sensitiveness is difficult to gauge until put to the test. For such, a general anæsthetic, despite its disadvantages, is safer than cocaine, with its risks of voluntary or half involuntary movements.

CASE 5. *Slowly developing posterior polar cataracts; iridectomy (right), followed by complete opacification in three months; successful extraction with excellent vision; the left cataract in statu quo five years later.*—John E. J——aged fifty-two, had prior to 1886 suffered for a long while from increasing dimness of vision, which interfered alike with reading and microscopical work, to which he was much devoted. On examination I found posterior polar cataract of both eyes, that of the right eye being slightly more advanced. He was a pale, waxen-skinned, neurotic man, and very anxious and distressed concerning his partial blindness. There was good vision for large objects, but small print could not be seen nor fine microscopic work attempted. There was much clear cortex in the anterior hemisphere of the lenses; moreover, the progress towards maturity had been, and promised to be, very slow. I advised iridectomy, with a view to maturation of the right. This I effected at the Western Ophthalmic Hospital under ether on Oct. 8th, 1886. Three months later I was pleasantly surprised to find the right cataract quite opaque, flush up with the posterior surface of the iris, and I extracted it entire. Vision with right eye, on Feb. 24th, $\frac{2}{3}$ c. + 15 D. = $\frac{2}{3}$; J. 1, c. + 18 D. The left eye was *in statu quo*, and when last seen a few months ago had hardly progressed at all since I first saw him five years ago. The right required a needling last year, and since then he has been quite equal to the smallest print and the finest microscopical work, so much so that he will not listen to the suggestion of any operation on the other eye.

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THE PRINCIPAL AND MOST EFFICACIOUS MEANS OF PREVENTING THE SPREAD OF ENTOZOAL AFFECTIONS IN MAN.

BY Dr. PROSPERO SONSINO (OF PISA).

(Concluded from page 421.)

THE principal of these personal rules are the following:—

1. Pure spring water, or else boiled or filtered water, alone to be drunk. Drinking water to be preserved in good and well-covered vessels. River or lake water not to be imbibed while bathing. (This rule regards prevention especially from *Bilharzia hæmatobia*, *Filaria sanguinis hominis*, *Dracunculus medinensis*, *Rhabdonema intestinale*, and probably also from *Filaria loa*, and many others.)

The relatively large dimensions of the eggs and larval stage of entozoa hinder their passage with water through a good filter; therefore proper filtration of drinking-water suffices.

That Bilharzia is taken in with drinking-water is demonstrated by the following evidence. In Egypt the disease is generally confined to the natives, and especially to rustics, who disregard the rule of filtering their drinking-water. I think that there is no evidence of a single person who, having always observed this rule, has yet become infected with Bilharzia. Filtration is, then, the great and principal preventive against Bilharzia. I have pointed out, ever since the year 1875, that the porous earthenware pitchers used in Egypt as recipients for water could serve very well as filters when used in the European manner. But, strange to say, these vessels, which are found in every house in Egypt, are not generally utilised as filters. On the contrary, the filtered water which percolates through them is thrown away. They are used to cool the water or to store it, and the people drink what is left in the interior of the jar, the cooled water, in a concentrated state of impurity. I never succeeded in persuading any Egyptian rustic to use the "zir" as a filter. In certain countries mosquitoes, falling and dying in water, infect it with the larval stage of *Filaria sanguinis* (Manson); and other insects, as flies, might accidentally deposit in water the eggs of other worms picked up in their roaming about upon the ground; hence the advantage of keeping drinking-water in well-covered vessels. In a paper published in the year 1875, I stated that some of my patients afflicted with endemic hæmaturia from Bilharzia told me that their disorder had originated after bathing in the Nile. I inferred then that Bilharzia may be taken in by swallowing water while bathing—a suspicion supported subsequently by observers in other countries (Guillemard and others). Nay, Dr. Rubidge of Algoa Bay said that he never met with a case of Bilharzia in boys who had not frequently bathed in the river at Port Elizabeth. From this he inferred that the parasite gained entrance by the skin while bathing. This opinion is untenable, as I knew persons, and among others women, who in Egypt acquired Bilharzia without having ever indulged in Nile or canal bathing. Guillemard rightly observes that the greater frequency of Bilharzia in boys and men than in women may be explained by the different habits observed as regards bathing in the two sexes in tropical countries; but bathing induces Bilharzia disease only because water is drunk while bathing. Thus Bilharzia makes no exception to the rule that the entozoa of man gain their entrance into the body of the bearer only in a passive manner by the mouth. The same we can say for *Dracunculus medinensis*, whose larval stage is swallowed in cyclops with water (Fedschenko). Another entozoon that is certainly taken in with foul drinking-water is the *Rhabdonema intestinale*. This parasite, which, since it was first discovered in soldiers coming from Cochin-China (Normand and Bavay), has been found in some parts of Europe, is, I think (basing my assertion upon my own observations as well as on those of others), not quite innocuous. When a great many individuals infect the human organism, as I have seen in two cases, it may be the cause of an intense anæmia and enteritis, which may endanger life. The disease arising from Rhabdonema I proposed lately to call *Rhabdonemiasis*, following the rule adopted for the naming of other entozoal diseases.

2. Meat, fresh-water fish, and vegetables to be well cooked and kept from insects (flies). For children and invalids raw meat can be used, provided that it is well pounded and passed through a suitable sieve. (This rule regards prevention especially from *Trichinæ spiralis*, *Tænia solium*, *Tænia saginata*, *Bothriocephalus latus*, *Ascaris lumbricoides*, *Tænia mystax*, *Distomum lanceolatum*, *Fasciola hepatica*, and others.)

It is well ascertained by experiments (Lewis, Pellizzari, Perroncito) that a temperature of about 60° C. (140° F). is sufficient to kill both the muscle-trichinæ and the cysticerci found in meat. But it must be borne in mind that to impart that temperature to the interior of large pieces of meat, it is necessary to subject the surface to a higher temperature for some considerable time.

Respecting *Bothriocephalus latus* recent experiments (Max Braun's, Zchobbe's, Ernest Parona's) have demonstrated, what was for a long time suspected, that the larval form of this cestode is found in some fresh-water fish, and especially in *Esox lucius* (the pike), and in *Lota vulgaris* (turbot); whilst in Japan the intermediary host would be principally *Onchorhynchus Perrji*, a fish that is eaten there raw (Ijima).

The modern use of raw beef for children and invalids has been the cause of an extraordinary spread of *Tænia saginata*. But we need not put aside entirely this remedy, so valuable, especially in the wasting diseases of children and in chronic dysentery, on account of the risk of tænia infection, inasmuch as that when raw meat is well pounded and passed through a fine sieve, there is no fear that *Cysticercus bovis* may be conveyed still living to the patient.

3. Depraved tastes for substances not possessed of alimentary qualities (Pica and Geophagia) not to be yielded to.

(This rule regards prevention especially from *Tænia nana*, *Tænia leptocephala*, *Tænia canina*, and probably from *Distomum eterophies*, *Echinorhynchus hominis*, *Ascaris lumbricoides*, *A. mystax*.) Many of these entozoa have, or are suspected to have, insects as intermediary hosts which may be conveyed to the stomach of man, through the habit of those affected by Pica and Geophagia of eating dirty things.

4. Special forms of food in use by the natives of countries possessing special entozoa to be avoided, or taken only after thorough cooking. (This rule is calculated to prevent *Bothriocephalus cordatus*, *B. Mansoni*, *Distomum crassum*, *Distomum eterophies*, *Distomum sinense*, and *Distomum Ringeri*.)

We know nothing of the life history of the foregoing entozoa. But it is very probable that they cannot be taken either with the drinking water or with the ordinary food of every country, because they are only known within limited districts; and some of them are found in the lower animals as well, especially in the carnivora (as *Bothriocephalus Mansoni*, *Distomum sinense* and *Distomum Ringeri*). Thus we are forced to think that the intermediary stage may, in the case of some of these parasites, be ingested with some alimentary substances special to those countries. And we know that the staple foods of Chinese and Japanese differ much from those of other countries.

5. Hands and nails to be kept thoroughly clean, particularly when about to eat. Domestic animals to be handled with caution, dogs especially. Caution in handling entozoa, their speedy and complete destruction by fire, whenever it is not necessary to preserve them for medical purposes. (This rule is of great importance, especially for preserving man from *Anchylostoma duodenale*, *Echinococcus*, *Pentastomum denticulatum*, *Tænia canina*, *Tænia solium*, and *Oxyuris vermicularis*.)

Anchylostoma is generally taken in by the hands being soiled with mud, in which its larvæ acquire a stage of development suitable for commencing a parasitic life. Anchylostoma occurs very frequently only in those classes of persons who handle mud much, as rustics generally do, and more particularly brickmakers, miners, &c. Thus in Egypt the very great prevalence of Anchylostoma is due to the general handling of mud by the natives in canal digging. In handling dogs man may attach to his hands the eggs of *Tænia echinococcus* and of *Pentastomum tænioides* and convey them to his stomach when eating. Handling entozoa which spontaneously quit the body of their host, as *Oxyuris vermicularis* and *Tænia solium*, may cause infection.

6. The body to be sedulously kept clear of epizoa (mosquitoes, bugs, fleas, &c.). (This rule is of great importance in guarding against some of the above-mentioned worms so as to interfere with the life cycle of those parasites, as well as with that of several of the filariæ.)

The intervention of State hygiene may contribute on a larger scale to the destruction of the eggs and embryos of the entozoa. The most efficient of all the measures that could be taken by the State would be the general destruction of the fæces and of all the excreta of man by heat (cremation), if possible, or their thorough disinfection. If we keep in mind that about half of the entozoa of man are intestinal, and that their diffusion in the outer world is made exclusively in fæces, we can easily conceive of what importance and efficiency would be the general adoption of such a measure. But the benefit that this would confer on mankind is not limited to the deliverance from many entozoa, as it would bring about also the destruction of all the micro-organisms that are spread with the fæces, and also of their toxic products, that otherwise may again poison our organism, if they contaminate drinking-water. A temperature of 50°C. of five minutes' duration is sufficient to kill both eggs and embryos of Anchylostoma (Perroncito). I admit that for other entozoa slightly higher temperature may be necessary; but we can be sure that there is no egg or larva of entozoa that can withstand with impunity the temperature of boiling water. Then baking, if not complete cremation, of fæces would be, without doubt, the most efficient expedient for dealing with them in view of destroying the eggs and larvæ of the intestinal entozoa. Nay, I would say it would satisfy the utmost desideratum of hygienists, and its realisation would indicate the greatest advance of civilisation in the mode of disposing of our excreta and of our dead bodies. But such a measure in a general way is as yet too difficult of realisation, both on account of injuring agricultural interests and being too expensive in its application. If we can find a cheap and convenient disinfectant, it would probably be adopted with less difficulty. Entozoal eggs have a shell provided with chitine, a substance very resistant to reagents. Yet allow me, gentlemen, to think that all that has been said about the resistance of entozoal eggs to the action of reagents must be accepted with reserve, because there is no doubt that the shell is permeable to fluids, so that its contents are rendered amenable to the influence of noxious fluids. In fact, the Ascaris eggs, which possess great powers of resistance, on account of having a very thick shell, when kept for a long time in urine or putrefying matter, ultimately lose their power of development—i.e., die (Davaine). Certainly many nematode eggs can undergo complete desiccation with impunity; only their development is arrested if they are deprived of a damp environment; moist air is sufficient and is, perhaps, more efficient than liquid water (Leuckart). But that the eggs of certain nematodes, with thick shells, like Ascaris, possess such an extraordinary power of resistance as to be able to support without injury to the development of the embryo even immersion in spirit or chromic acid, as is said by some old experimenters, I am a little incredulous. That is an assertion that recalls to me the story of ancestral wheat found in the Pyramids said to be capable of germinating and of resuscitating rotifers. Against these observations we can affirm that concentrated alcohol and chromic acid have a coagulating action on albumen, and, penetrating the eggs, must exert a destructive power on the animal cell.

On the other hand, we see that, though the eggs of entozoa offer great resistance to the action of external agents, they are more or less liable to decay under certain conditions. Thus it is notorious that eggs and embryos of Bilharzia do not withstand long the action of decomposing urine; and this fact has a very important bearing from the point of view of prevention. Eggs of Ascaris, as I have stated, kept for a long time in urine or putrefying matters, ultimately lose their power of development; and as for the eggs of Anchylostoma, my experiments assured me that, left in fæces alone for a certain number of days, even five days only, they all perish. As regards the eggs of *Tænia solium* and *Tænia saginata*, and other thick-shelled eggs, I have no clear notion about their spontaneous decay; but we can say in a general way that, by hindering the introduction of fresh eggs into water and earth, we facilitate greatly their destruction, and thereby diminish much the spread of entozoa in man. Hence the usefulness of suitable latrine arrangements in preventing the spread of entozoa. But in hygiene "*melius abundare*" is a good motto; we must therefore search for a convenient disinfectant of the eggs and the embryos of entozoa, applicable in certain special circumstances, if not as a general means of treating human fæces. Quicklime would offer the great advantage of cheapness. It suffices to say that on the Continent its cost may be calculated on an average at 15 francs per ton. It is, indeed, impossible to find a cheaper substance for disinfection purposes. In recent books of hygiene (Flugge, De Giaxa) quicklime is suggested for disinfection of the fæces in the proportion of 1 or 2 per cent. to the fæces. But I fear much from all that I know that such a proportion is insufficient to kill the entozoal eggs. The suitability of quicklime as a disinfectant rests, I think, on its action of absorbing water, and even more on its power of evolving heat. But to elicit this action efficiently it is necessary to use quicklime in a very large proportion. It could not be suggested as an efficient disinfectant of fæces unless mixed in such a proportion to the fæcal matters as to raise the temperature of the mixture to such a degree as to kill the eggs by heat. To be sure of its acting in this way the heat should be of about that of boiling water. To employ it in such proportions offers many drawbacks. Sulphuric acid has been found a good killer of the eggs and larvæ of Anchylostoma (Perroncito and Schopf), and it is generally known that while in the workmen of the Schmnitz mines Anchylostoma was common, it was not found in those of the neighbouring Kremnitz mines, and this fact can only be explained by the presence of sulphuric acid in the stagnant water in the galleries of the latter mines. I have made recently some experiments with sulphuric acid which confirm its efficacy, attested by previous observers. I took fæces containing eggs of Ascaris and Anchylostoma, and teased them on two glass slides. One as a control specimen was merely covered with a cover glass and left to itself. To the other, before covering it, the disinfectant (sulphuric acid at 10 per cent.) was added. Evidence that the eggs had died was easily afforded in the case of Anchylostoma by

SYNOPSIS OF THE EXOTIC ENTOZOA OF MAN, WITH THEIR GEOGRAPHICAL DISTRIBUTION.

Name of the Entozoon.	Asia.	Oceania.	Africa.	America.	Observations.
(1) TÆNIA MADAGASCARIENSIS, *Daraine* (*)	—	—	Mayotte (*Grénet* — (*Leuckart*) — Mauritius (*Chevreau*)	—	R. Blanchard says that Leuckart's observation relates probably to specimens from some parts of the eastern side of Africa or the islands of that coast.
(2) BOTHRIOCEPHALUS CORDATUS, *Leuckart* (*)	—	—	—	Greenland	—
(3) BOTHRIOCEPHALUS MANSONI, *Cobbold* (***)	China (*Manson*)—Japan (*Scheube, Ijima*)	—	—	—	Known only in the larval stage. Found probably also in *Canis aureus* (Jackal) in Egypt by Sonsino.
(4) DISTOMUM RINGERI, *Cobbold* (**)	Formosa (*Manson, Ringer*) — Japan (*Baelz, Taylor, Ijima*)	—	—	—	Lately found by *Yamagiva* encysted in brain, having caused the Jacksonian epilepsy.
(5) DISTOMUM ETEROPHIES, *von Siebold* (*)	—	—	Egypt (*Bilharz*)	—	—
(6) DISTOMUM BUSKI, *Lancaster* (*)	China (*Busk* in a Lascar—*Kerr* at Canton —*Cobbold* in persons from Ningpo	—	—	—	—
(7) DISTOMUM SINENSE, *Cobbold* (**)	China and Corea (*MacConnell* at Calcutta, in Chinese—*Macgregor* at Mauritius, in Chinese)—Japan (*Baelz, Scheube*) — Tonkin (*Grall, Caraes, Yallot, R. Blanchard*) — Bengal? (*Pfihl*)	—	—	—	Found, too, in cats in China—identified by Sonsino.
(8) DISTOMUM CONJUNCTUM, *Cobbold* (**)	India (*MacConnell*)	—	—	—	Found by Cobbold in an American fox which died in London, and by Lewis in dogs at Calcutta. Very probably the same as *Distomum sinense (Sonsino)*.
(9) BILHARZIA HÆMATOBIA, *Cobbold* (***)	Arabian Coast of Red Sea?	—	Egypt (*Bilharz* and others). — Cape Colony (*John Harley*). Kaffraria and Natal (*Cobbold*). — Nearly all the east coast of Africa, with the adjacent isles.—On the Gold Coast in Western Africa (*Eyles* and *Eden*).—White Nile between 6° N., and the Albert Nyanza (*Felkin*). — Chad and adjacent countries? (*Nachtigal*). — Tunisia (*Villeneuve, Brault*)	—	Nachtigal's verbal communication attested only the existence of endemic hæmaturia in Lake Chad and adjacent countries, but it has not actually demonstrated the existence of Bilharzia in those districts. Berkeley Hill in 1888 spoke of Bilharzia in two persons living wholly in England. Bilharzia was found by Cobbold in *Cercopithecus fuliginosus*, which died in London. *Bilharzia crassa* found by Sonsino at Zagazig (Egypt) both in oxen and in sheep; is still doubtful whether it is a different species from that of man. Bilharzia in oxen was found, too, at Calcutta by Bomford, and in sheep, near Catania, by Grassi.
(10) AMPHISTOMUM HOMINIS, *Lewis and MacConnell* (*)	India (*Lewis* and *MacConnell*)	—	—	—	—
(11) DRACUNCULUS MEDINENSIS, *Lin.* (**)	Arabia, Persia, Turkestan, India	—	Guinea, Senegambia, Darfoor, Senaar, Abyssinia, Nubia, Egypt.	West Indies, Brazil, Guiana	—
(12) FILARIA SANGUINIS HOMINIS, *Lewis* (*),	India (*Lewis*)—China (*Manson*) — Japan (*Scheube, Beukema, Baelz*)	Queensland (*Bancroft* of Brisbane)	Egypt (*Sonsino*, 1874)—Soudan — Algeria? (*Cauvet*, 1876).—Shores of the Zambesi and Lake Nyassa, Zanzibar coast (*Felkin*). — Mauritius, Mayotte, West Africa?	West Indies (*Demarquay, Crevaud*, and others). Brazil (*Wucherer, Silva Araujo, Magalhaes*, and others). —Southern portion of the United States, Charleston, S. Carolina (*Guitéras*).—Mobile, Alabama (*Wm. M. Mastin*). Guiana (*Winckel*).—Buenos-Ayres (*Wernicke*).	The first relation on the embryos of this filaria belongs to Demarquay of Paris, who found it in hydrocele of man from Havana, 1863. Lewis discovered it at Calcutta in 1872 *in blood*. Adult worm found almost in the same time by Bancroft, Carter, and Lewis. Cauvet's singular observation may belong to an individual who has take then infection in other country than Algeria.
(13) FILARIA DIURNA, *Manson* (*)	—	—	Congo, Old Calabar (*Manson*)	—	The specificity of this and of the following filaria rests on the recent observations of Manson, and it is founded only on the characters of the embryos, the only stage known at present.
(14) FILARIA PERSTANS, *Manson* (*)	—	—	Congo, Old Calabar (*Manson*)	—	The cause of sleeping sickness and perhaps of craw-craw (*Manson*).
(15) FILARIA LOA, *Guyot* (*)	—	—	West Coast of Africa, Guinea, Angola, Gaboon, Congo	Guiana and West Indies, only in African negroes.	Supposed by Manson to be the adult stage of *filaria diurna*.
(16) PENTASTOMUM CONSTRICTUM, *von Siebold* (**)	—	—	Egypt (*Pruner, Bilharz, Fenger*)	—	Known only in the larval stage. Found only in necropsies of negroes in Cairo, and probably indigenous to the Soudan and not to Egypt; also found in the giraffe too (*Pruner*).

(*) One asterisk indicates that the entozoon was found in man only. (**) Two asterisks indicate that the entozoon was found in man and animal. (***) Three asterisks indicate that it is doubtful whether it was found only in man, or in both man and animal.

seeing that the mass of the vitellus or the embryos had shrivelled, or that (the preparation having been left for one or two days) I did not find any living embryo within or without the eggs. As for Ascaris, the evidence is more difficult, the eggs of Ascaris not offering segmentation and the formation of the embryo so soon as those of Anchylostoma. Still one thing I observed, that sulphuric acid deprives the eggs of their external coat of the shell, and there are grounds for believing that eggs deprived of that coat are incapable of development. As sulphuric acid can be used with more convenience and effect than quicklime, it is therefore to be recommended.

The destruction of urine and expectoration has no great importance in respect to the prevention of entozoal diseases, as it has relation only with few parasites, especially *Bilharzia hæmatobia* and *Distomum Ringeri*. Respecting urine, it would be of great importance to hinder the pouring of fresh urine into the water-courses, rivers, or canals; but it is almost impossible to enforce the actual observance of this rule by State provision.

Of the most importance for the prevention of the entozoal diseases is the public measure of procuring good spring drinking-water for the use of the population. But I need not dwell upon the necessity of a good drinking-water for a community, as it is a measure of the first importance for the prevention of many other diseases, and constitutes the basis of all good systems of sanitation. Being difficult nowadays to obtain the destruction of all eggs and larvæ of intestinal entozoa by the general cremation of the fæces, it is necessary to be satisfied with the following measures, which should be rendered obligatory by the Boards of Health of all countries where State action may be exercised in the cause of sanitation.

1. The discharge of sewers, where possible, must be into the sea. I know that this measure is opposed to agricultural interests, but in this question safety is the first thing to be sought, and profit must come afterwards (Parkes). In seaports the outfall of the sewers must be outside the port and far from dwelling-places, and, better, the discharges transported by sewage boats be thrown into the high sea. When this is not possible, they must never be thrown into rivers. Irrigation systems would be safe certainly, provided that the irrigated soil be cultivated only with vegetables that are used as cooked food (De Giaxa), or, still better, with anything that it is not intended to afford food, either for man or for feeding domestic animals. Otherwise irrigation systems with previous efficient disinfection of the sewage must be resorted to.

Many of you, gentlemen, remember the discussion that some twenty years ago arose about the danger of sewage irrigation as a cause of the spread of entozoa in man. It was opposed to the late Dr. Cobbold that there were no arguments showing that sewage irrigation of the soil had contributed to augment the spread of the entozoa in man. But Dr. Cobbold rightly replied that statistics afforded little assistance in calculating the relative frequency of the entozoal diseases and of the deaths produced by them, as in the greater number of cases entozoal diseases do not figure at all in these statistics, being registered as common diseases and under other designations. Yet the fact exists that some worms that are taken with vegetable food are more frequent in the country than in the town, it being more easy to procure and eat unwashed fresh vegetables in the country.

2. Whenever the first measure is not applicable, and general destruction or disinfection of fæces cannot be practised, the disinfection at least of fæces of such institutions as hospitals, asylums, and schools—these being places where fæcal matters are more frequently and more extensively contaminated with eggs and larvæ of entozoa—must be prescribed. This disinfection must be effected by heat or by some very efficient disinfectant, such as sulphuric acid (10 per cent.) or great quantities of quicklime.

3. Interdiction of nuisances, especially in certain places of labour—as brickfields, mines, tunnels, railway embankments, digging of canals, rice plantations, with provision in those places of special forms of latrine and tanks to receive the excreta for disinfection. Microscopical examinations of fæces in the case of workmen before their admission into such works as tunnels and mines; examination that must be practised again at regular periods, in order to eliminate from these places of labour those that are found infected, and cure them before readmission.

4. Prescription of daily veterinary inspection in the slaughter-houses (for trichina and measles especially). Cremation of all organs or part of organs of slaughtered animals offering or containing entozoa. "All entozoa not preserved for scientific investigation or experiment should be destroyed by fire, and under no circumstances whatever should they be thrown aside as harmless refuse." (It is fair to say that the last clause of this rule is quoted from a paper by the late Dr. Cobbold, read at the Cambridge meeting of the British Association in 1862.)

5. Facilities for admission into the hospitals should be afforded to the patients suffering from entozoal maladies in order to cure them.

6. Licensing of pigsties. Pigs should be enclosed so that they may not have access to human ordure or to mice infected by trichina. (This measure would diminish the spread of trichina and measles in swine and indirectly in man.)

7. The general destruction of ownerless dogs and their removal from slaughter-houses. (This measure is with a view specially to the diminution of the entozoa of man which accomplish their life cycle in dogs, as *Echinococcus* and *Pentastomum denticulatum*.)

8. The providing of latrines, not only in towns, but also throughout the country, along the roads, even far from dwelling-places. (This is certainly of great importance, as it would contribute much to diminish the contamination of soil and water with the fresh eggs and larvæ of entozoa.)

These are the means both of a personal and of public character which I think the most useful and efficient in restraining the spread of entozoal affections in man. I think that they are all applicable, and that hygienists cannot exert themselves too much to obtain their thorough application. Nay, many of them are already entered in the ordinary rules of sanitation of the best regulated and most civilised communities. But my aim has been especially to describe the principal and most effective means of preventing the spread of entozoal diseases in those countries where they are most frequent, most formidable, and play a more important part in the morbidity and mortality of man. Those countries are especially the hot countries of tropical and subtropical regions, of one of which particularly I could speak from long experience during a sojourn of twelve years. I mean Egypt, where *Anchylostoma duodenale*, *Filaria sanguinis*, and *Bilharzia hæmatobia*, as I have said on many previous occasions, play together a very important part in the generation of diseases of man, and concur in the production of a large mortality of the natives. To the pernicious influence of those three entozoa may perhaps be added that of another—viz., *Rhabdonema intestinale*,—which, being the cause of a peculiar anæmia with specific enteritis, is often confounded with Anchylostoma affection. But, just as in Egypt, we have, gentlemen, many other countries of Africa, Asia, and South America where the ravages from entozoal diseases, though not attested by statistics, are not less formidable. I will recall to you the African negro cachexy, known for a long time as very common among the natives of Western Africa and the slaves in the West Indian colonies, which is in great part the result of the presence of Anchylostoma. Also, I would mention another scourge of tropical climates, mistaken for and often described under the colloquial term of *Beri-beri*, which is frequently really a compound distemper, a great element of which is the anæmia from Anchylostoma, as has been discovered recently in the so-called *Beri beri* of Ceylon (Kinsey). I may also recall chyluria, lymphocele, lymph-scrotum, and many other similar disorders that arise from the alterations and occlusions of the lymphatic vessels, particularly of the thoracic duct, which are caused by the presence of *Filaria sanguinis*, and the formidable disease of Western Africa called *sleeping sickness*, which Dr. Manson thinks now to be caused possibly by the newly discovered *Filaria perstans*. Then there are the no less formidable disorders to which Africans are subject from the presence of Bilharzia in the abdominal veins, disorders that begin with a simple and apparently harmless hæmaturia, and which subsequently often assume characters of more gravity, leading to cystitis, ectasiæ of the ureters, hydronephrosis, perineal fistula (Mackie), and urinary calculus. Thus, in conclusion, Anchylostoma, Filariæ, and Bilharzia are veritable scourges to mankind, a kind of scourge that does not destroy at once like cholera or plague, but decimates slowly and deteriorates entire populations just as malaria does.

SIBERIAN PENAL FLOGGING:

NOTES AND OBSERVATIONS IN A CASE OF ONE HUNDRED CONSECUTIVE LASHES WITH THE KNOUT.

BY BENJAMIN HOWARD, M.A., M.D., F.R.C.S.E.

WHILE travelling in the interior of Siberia, as also in Western Russia, I had always been on the alert to seize an opportunity of seeing for myself the punishment by the knout, of which so many who have not seen it have so freely published descriptions. In this one particular, however, the always affable prison officials had never found it within their power to alter previous arrangements to suit the travelling plans of one who was merely a visitor.

Several hundred miles east of the eastern coast of Siberia confronting the coast of Kamschatka is an island reserved for prisoners exiled from less distant penal colonies for additional murders, or equivalent crimes, political or otherwise, there committed. Two survivors from a ship which at midnight, in a hurricane, had gone to pieces on a reef about a hundred miles away, reached the shore of this island in a flat-bottomed boat just as the governor of the island was near the landing-place taking his evening promenade. One of these survivors was immediately made the governor's guest, and as it was impossible to find means of getting off again at present he became for many weeks his constant companion on nearly every occasion, official as well as social. This is how it happened that the present case, amongst others, came without effort under my daily observation.

Convict T. H. C——, aged thirty-two, was examined by the post surgeon and myself in the usual punctilious manner in the presence of the court, the medical examination being imperative, in all cases of flogging, within the same day as that on which the punishment is to be administered. The culprit was thin and anæmic, but there was no evidence of any organic disease or of his being other than in his usual health. Thereupon the sentence was ordered to be duly carried out, and one hundred lashes to be given that day. The culprit, heavily loaded with leg and wrist manacles, guarded by four soldiers with cocked revolvers, was marched back to his cell, which was as large as a coachhouse; and the officials, none of whom seemed to relish the coming duty, took two dinners—one immediately, another two hours afterwards,—in both of which, as far as I was able, I joined them. Directly after the last dinner, or about 4 P.M., the governor and officials in uniform being present, a long pine table about fourteen inches high, was placed in the centre of one of the prison courtyards, upon which, after another slight examination by the surgeon, the culprit placed himself face downwards. There were slits in the top of the table through which straps passed, buckling the culprit to it immovably, his entire back, buttocks, and thighs being bare. The knout, in general shape, was much like the whip used for dog sledge driving: a short, thick handle of wood, with a thong about twelve feet long. The thong in this case was of stout raw hide, which for the last four feet was in three tails, the terminal end of each being formed into a stout knot. The official flogger, at the word of command, with great skill brought the three tails with a sharp recoil just upon the buttocks, shouting "One." This was responded to by a sub-officer on the opposite side of the culprit, who also shouted "One," entering the number at the same moment in a book. This form was continued with great care to the end. Until the fifth or sixth stroke the appearance of the parts struck was as if fifteen strips of white paper had been pasted across them, so completely was the blood expelled at the points of contact at each blow. From that time forward blood spattered until the whole surface of the buttocks was covered with it. At the fiftieth stroke the executioner changed sides, so that the two buttocks which alone were struck were made to share the violence equally. Before the fifty-first stroke was commenced the post surgeon felt the patient's pulse, when, had he thought it necessary, he could have had the remaining fifty strokes postponed. During the first twenty or thirty strokes, and until the skin was pretty generally detached, the screams of the patient were all he could make them. They gradually diminished, but were reawakened on the flogger changing sides, until the sixtieth or seventieth stroke, when they subsided entirely into groans. On being unstrapped, the patient was in a cold, clammy sweat, deadly pale, and quivering, but by the help of two soldiers was able to take steps towards the hospital. In the hospital everything had been made ready for the patient's reception, where the wound and himself received as much care as if he had met with an accident for which he was not responsible.

Aug. 6th.—On admission to hospital the pulse was 120 and very weak. The treatment was cold-water dressing and the internal use of stimulants. The appetite, which was naturally very small, was humoured as far as the hospital resources would allow, until it grew to be all that could be desired. The temperatures (centigrade—the only one used in Russia) taken until a fairly sound condition was established were as follows: Aug. 6th, 37½°; 7th, 37°; 8th, 37°; 9th, 38·9°; 10th, 37·5°; 11th, 38°; 13th, 36·8°; 14th, 39·2°; 15th, 38·2°. The pulse under stimulants and nourishment gradually improved, and from Aug. 10th varied between 80° and 90°, but was always weak, to which the patient had a natural tendency.

As regards the wound, by the third day all the loose shreds of remaining integument and cellular tissue had become gangrenous, for which antiseptic applications were kept applied. By the twelfth day the continuous use of antiseptic poultices had yielded a fairly clean wound. Its area was about fifteen by ten inches; and its depth, which invaded the muscular tissue, varied from half an inch to an inch. It looked much like a wound from an exploded shell. After this date, as the strength of the patient increased, cicatrisation proceeded from the margins with as fair speed as could have been hoped for, and continued to do so up to the time I last saw it. I recommended that as soon as the base was sufficiently advanced skin grafts should be evenly disseminated, when I thought the prospect was good for a recovery as speedy and as complete as the patient deserved. This last remark will not be precisely appreciated without an explanation. This man, who before had been several times a murderer, had recently killed for the sake of a few roubles another convict who, settled on a farm of his own, had become this culprit's benefactor. In the absence of capital punishment, and the impossibility of more distant exile, the only check upon many of the more hardened murderers is the fear of the lash, of which 100 strokes at a time is the legal maximum. These facts, and the consequent insecurity which the officers feel respecting their own persons, make them less incapable than they might be of witnessing these sickening and shocking spectacles.

The knout, from an English standpoint, has been the topic of endless denunciation, the circumstances of its use in Siberia being all the time as far from that standpoint as Vladivostock is from London. The classic LANCET is not the place to rebut the reckless assertions or the illogical conclusions on this question published so freely where they are beyond correction. On this point, therefore, I will only say one word. In Russia indifference to death is no distinction; but the terror of the knout is universal, and in places 10,000 miles from the centre of administration this form of punishment is the most prompt, economical, and effective available. From a medical standpoint the physical results of flogging, as I have seen it in its various forms in Siberia, have disappointed me. In every case the primary shock and also the secondary shock have been less than I looked for; and, bearing in mind the alleged former fatality of flogging in the English army, I am inclined to think that, unless those reports were often exaggerations, some of the difference in the after consequences may be attributed to the difference of position of the culprit during the flogging. In England the culprit, if I remember rightly, was tied up to a post—i.e., he was perpendicular; in Russia, as at Eton, the culprit's head is always lower than the heart and than the part flogged—i.e., he is horizontal, a difference of great import when the threatened death is from syncope thus induced.

I cannot close this short account of my experience in this matter without one word respecting Russian surgeons. Of all the Russian surgeons I have met, whether military or under civil contract with the Prisons Department, I have never found one who appeared to be other than humane—gentle and kind even to the most undeserving. As the hospital is the paradise of every convict settlement in Siberia, the discrimination of the surgeons is tested in the most ingenious ways, but I have often seen them prefer to risk discredit to themselves rather than injury to a suspected malingerer, who possibly might be suffering as he alleged.

Island of Sahalin, N.E. Siberia.

A CASE OF

SUICIDAL POISONING BY CARBOLIC ACID;

OVER ONE OUNCE OF NINETY PER CENT. STRENGTH STATED TO HAVE BEEN TAKEN; RECOVERY.

BY JAMES R. GREENWAY, M.D.

THE somewhat frequent occurrence of serious results, and the fatal instances occasionally reported in the daily papers, from a much less quantity of carbolic acid than above stated, render the following case of interest. No more valuable or widely used disinfectant probably exists, while its cheapness combined with efficiency serves to further enhance its value and extend its use. There may be those disposed to consider that the use of such poisons should not be encouraged in the home and its more immediate surroundings; but if such views were generally acted upon, our resources for the prevention or mitigation of infection or disease would be largely curtailed, our intentions and efforts often inefficiently carried out or less promptly realised, and the expense of other substitutes probably beyond the means of many, especially in the homes of the poor. Only the previous day to that on which the event to be related occurred the writer advised a well-known preparation of carbolic acid labelled No. 5 to be bought and carefully used, owing to much unpleasantness from exposure and repair of the drains connected with a dwelling-house into which a patient had removed before such repairs had been known to be necessary or completed. The acid was purchased in the usual dark-blue half-pint bottles, properly labelled, and also with "Poison" in red letters thereon.

Soon after noon on Easter Day I was sent for to see E. P——, a cook, aged twenty-one. The messenger stated that her fellow-servant was lying insensible on the kitchen floor, but having before had occasional similar attacks of fainting and insensibility, her state did not for a time cause any particular anxiety; but on the bottle of carbolic acid bought on the previous day being asked for, it was, after search, found in the kitchen, and over an ounce missing therefrom since last used for the drains, and a two-ounce gallipot smelling strongly of it was found hidden behind plates on the shelf of the kitchen dresser. When first visited the patient was lying on her back on the kitchen floor in a state of total insensibility. The body was well nourished, with strong muscular development, and there was a slight tint over the cheeks. The eyes were closed; pupils normal, or rather contracted, and insensible to light. The limbs were supple, and immediately fell on being raised; no sensibility to a pinch of the arm, to the puncture of a needle, or to galvanism; no movements; breathing very quiet, and at times scarcely perceptible; pulse imperceptible; no sickness; no involuntary action of the bowels or bladder; no marks of violence, injury, or bruise, as might have resulted from the fall on the floor. There was no smell or mark of acid about the lips or mouth, the absence of which seemed to add to the difficulties of positive diagnosis, as well as the attendant peculiarities. The lips and mouth appeared dry, pale, and bloodless. There was utter inability to swallow, and the absolute palsied or passive condition, and the difficulty and risk in passing the stomach tube, gave additional interest to the features of the case. A hypodermic injection of five minims of apomorphia was first used and repeated in twenty minutes; a warm covering placed over the body and warmth applied to the cardiac region; with artificial respiration, inhalation of ammonia and camphor, and galvanism to chest and nape of neck. No effects nor even the slightest effort to vomit followed the use of the apomorphia, but the respiration became deeper and fuller from artificial aid and galvanism, and the pulse became slightly perceptible. In the meantime my friend Dr. Elliott was sent for to meet me on the case, and he kindly and promptly responded to my request. Under our joint attention, while one held the tongue well forward with a tractor, a soft rubber tube was, after several futile attempts, successfully introduced into the stomach, and a quantity of fluid, exhaling carbolic acid strongly, was withdrawn, and evidently beef-tea made for an invalid had been taken. The stomach was afterwards well washed out with warm water containing carbonate of soda. Then warm milk with a wineglassful of cognac was injected, and after a time a similar portion given as enema, and both repeated at intervals. As more than five hours had elapsed since the poison had been taken, recovery seemed hopeless; the features were deathly pallid, breathing slight and feeble, pulse scarcely perceptible; total insensibility and inability to swallow continued. After the repeated hypodermic use of ether (five minims) the first signs of rallying were observable, but more than six hours elapsed from the suicidal attempt before there were any movements of the limbs perceptible, followed by looking around her, restlessness, and efforts to vomit. Warm milk, raw eggs well beat up in tea or cocoa, corn-flour and milk, with the addition of a little brandy, mixture of carbonate of soda, camphor, &c., were ordered to be given as agreeable, and about 8 P.M. consciousness was fairly restored; the patient answered questions, though with some confusion and hesitation, but had to be almost forced to take nourishment or to swallow fluid food. The accouchement of the lady of the house being near, the patient was carefully removed about 11 P.M., and under careful attention and strict diet made a rapid and complete recovery. The following afternoon she insisted on going by train to her friends, some twelve miles distant, and about thirty hours after her suicidal attempt; she walked over a mile to the station, has not experienced any untoward symptoms since, and has in every respect progressed satisfactorily.

Complete recovery after so large a dose is certainly unique, and that without any lingering sequelæ. The quantity of carbolic acid taken may possibly be open to question, but every care has been taken to ensure truth and correctness on this point. The makers of the acid, in response to written inquiry, have kindly stated the strength of the acid as 90 to 95 per cent. The lady who had charge of the acid immediately before the casualty, and also a nurse, verified the quantity missing. The patient, since recovery, declared that she filled the gallipot before named three parts full and then diluted it, and expressed suicidal intent. All the evidence available supports the particulars given, and there is nothing traceable contrary thereto. The acid being freely diluted, and much beef-tea therewith, may account for there being no local corrosive action about the mouth, as well as the quick recovery. The extreme gravity of the case, the utter helpless and prostrate condition, the large quantity of acid withdrawn from the stomach, and the efficiency of the means used, are alike testified by Dr. Elliott and myself. The weary hours which elapsed, with such long-continued efforts before there was any encouragement towards or signs of recovery, should stimulate perseverance in the most desperate conditions. The failure to induce vomiting by the hypodermic use of apomorphia may serve to convey a lesson of its probable uselessness in such insensitive and prostrate conditions without the early aid of the stomach tube and restoratives, the free use of diluents, &c. The great benefit derived from the repeated hypodermic injection of ether was strongly evident in this case, as I have witnessed in other cases of absolute prostration and paralysis, the effects of poisons, and from other causes.

Tunbridge Wells.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

BLISTERS IN THE FIRST STAGE OF PNEUMONIA.

BY J. MURRAY SMITH, M.B.

DR. LAUDER BRUNTON, in his address on Medicine at Bournemouth, after considering some of the problems regarding poisonous albumoses, the neutralisation of poisonous albumoses, and immunity, was led to make certain speculations regarding blisters and bleeding. Now, those remarks seem to me to show that the theory of counter-irritation is not a settled one. Take, for instance, a case of pneumonia. No doubt the tendency of modern practice is restricted to blistering in chronic inflammation, but, as an assistant some years ago to an M.D. and F.R.C.S. Lond., I saw the practice carried out of using a blister in the early stage of pyrexial inflammation in cases

of pneumonia, and great relief given to the patients. Now what is the *modus operandi* of such relief? Here are some of the theories: "By superseding one morbid action by another"; "that blisters act in a metastatic sense." Dr. Anstie held that the effect was gained by a stimulative action on the vessels of the part, and he suggested that it should be properly called "distant stimulation." We may say that blisters are supposed to act therapeutically either as derivants or reflexly through the nerves of the inflamed part. There is no doubt that stimulation of the seasory nerves of the skin leads to increased activity of the vaso-motor centre, but in a case of pneumonia what is the action of a blister where the organ to be acted upon is remote, and where there is virtually little or no connexion between the parietal and visceral circulations? But that a blister applied to the chest in the active congestive stage of pneumonia gives relief I have seen proved in many cases. This treatment is opposed to the advice given in all modern text-books. Dr. Anstie says[1] that "the indiscriminate use of blisters in such cases as pneumonia, for example, in the hope of controlling the inflammation, is not only wrong, but almost ludicrous." But then many others besides me have seen the positive result of relief. Dr. George Johnson noticed that in pneumonia the exudation into the lung is speedily followed by a subsidence of the febrile excitement, otherwise a noxious product is thrown out of the circulation. He also believes that, if we can catch the disease in the stage of the initiatory fever before the exudation process has commenced, it is possible to prevent the pulmonary mischief by favouring exudation through other channels. Dr. Lauder Brunton threw out the suggestion that blisters may act as a form of endermic administration of proteid matters altered in their passage from the vessels to the surface of the skin. May not this proteid matter exercise a destructive action on the microbe of pneumonia, and consequently cut the attack short, as I believe it does?

Toddington, Beds.

A CASE OF IDIOPATHIC TETANUS ASSOCIATED WITH DRINKING COLD WATER.

BY SANDERSON MELLOR, L.R.C.P., L.R.C.S. ED., &c.

THE comparative rarity of this serious affection induces me to ask you to give it publicity in your journal.

On May 12th I was asked to see as soon as possible a young man, J. B——, aged eighteen, as I was informed he was lying in bed and could not move. On arrival I found an exceedingly well developed and powerfully built youth lying on the bed in a position of complete lordosis. His lower jaw was tightly clenched against the upper, all the muscles of which were rigid and as hard as possible. He was quite unable to separate his teeth, even to a quarter of an inch. The muscles of the abdomen were in a like condition. When I saw him he was able to draw up his legs in bed quite easily. He did not complain of any pain, and was quite unable to account for his present condition. Not the slightest sign of a scratch or cut was to be found on any part of his body. He seemed fairly cheerful, and told me that he returned from work the night before, and, perspiring freely, went outside to the tank and drank about a pint of cold water. I suggested that a glass of ale would have done him more good, but he said he did not think so, as he was a total abstainer. I saw him again that night, when he was in much the same condition. On the following morning I found him in complete opisthotonus, the spasms of the voluntary muscles coming on at intervals in a most violent manner, and his face being singularly expressive of pain. This state of things continued without abatement for ten days, at the end of which time the disease seemed to be gradually wearing itself out—so much so that the masseters resumed their normal tone, and he was able to feed himself with a spoon. But dreading a long convalescence he was sent as an in-patient to the hospital, where he developed an attack of subacute rheumatism. He was in that institution five weeks, and on being discharged he presented himself at my surgery. The treatment consisted of large combined doses of bromide and chloral, tincture of Calabar bean, and opium, nutrient suppositories and enemata, also brandy mixture, which he sucked in between his teeth. I take it that this attack of acute tetanus was due to the pint of cold water taken when the body was overheated.

West Malling.

[1] Practitioner, March 1870.

DEATH UNDER METHYLENE.

BY EDWARD CHAMBERLAYNE, M.B., C.M. ED.

ON Monday, Aug. 3rd, I administered methylene to S. J. M—— at the request of Mr. Colin Campbell of Uppermill. She was about eight minutes before becoming unconscious. The methylene was administered slowly, and the Junker's inhaler removed from time to time. Besides the supply of air through the valve of the inhaler, there was a space, owing to falling in of the cheeks, easily admitting the tips of two fingers, on each side of the mouth between the mouth and the inhaler. All went on in a perfectly usual manner till about twenty minutes after the administration was begun, when she began to heave as if to vomit. The whole apparatus was at once removed, her head turned on one side, and her tongue pulled forward. A small quantity of frothy mucus was brought up. The heaving lasted about a minute and a half, after which she made several deep inspirations of air. Seeing then that the respiration was fully established, and noticing the corneal reflex was present, the administration was resumed; two or three strokes of the hand-ball were given, when her face became livid and respiration ceased. Artificial respiration was instantly commenced, and injections of ether (six in all) were given, also three enemata of brandy. Her head was hung over the table, and Dr. Lawton Andrew of Mossley attended with a battery. Artificial respiration was kept up for an hour and twenty minutes, and it was then decided that the case was hopeless. Dr. Lawton Andrew and I were of opinion that the heart continued to contract for some time after respiration ceased; Mr. Campbell was doubtful. Four drachms of methylene were used out of the bottle, but of this probably a drachm had been wasted owing to its accidental overturning before my arrival. There was no post-mortem examination. The coroner's jury returned the verdict: "That the deceased was a fit subject for the administration of an anæsthetic; that the administration was skilfully performed; and that she died from misadventure."

In reference to the above Mr. C. Campbell writes as follows:—"I need add very little to Dr. Chamberlayne's accurate account of this lamentable occurrence. Mrs. M——, who had been a patient of mine for over seven years, consulted me, accompanied by a friend of hers, about her breast on Aug. 2nd. Finding undoubted 'cancer,' I recommended early removal, to which she willingly consented. I had completed the incisions around the breast, and nearly separated it from the thoracic walls, intending subsequently to open the axilla, when the breathing ceased. The head being allowed to fall over the table, the artificial respiration appeared to be very effective, so much so that the blueness disappeared from the lips and the face became life-like in colour. This encouraged us to persevere. I had frequently examined her heart, and believed it to be healthy."

Stalybridge.

A PILL LODGED IN THE RIGHT BRONCHUS.

BY CHARLES STEELE, M.D., F.R.C.S.

I PRESCRIBED some pills containing iron for a lady about four weeks ago, which she took regularly three times a day with great benefit until Wednesday (Aug. 12th). Late on Thursday evening she called and said she was in such pain that she could not pass another night unrelieved. The pill which she took after dinner the day before did not seem to go the right way, and all her efforts to dislodge it failed. Before long pain set in in the front of her chest three inches below her right clavicle, and after a time a similar pain occurred in a corresponding spot behind, and deep breathing increased the suffering. She had been able to swallow fluids and solids all the time without difficulty. The last few hours she had expectorated with a cough, and whatever came up had the taste of the pill. Auscultation rendered no assistance. I laid her on her left side on a couch with her hips raised on cushions, and gave a few pats on her back, producing a sudden cough, and expectoration containing red spots like blood; this I put under a microscope; but there were no corpuscles. I diagnosed clearly that the pill had gone into the windpipe (probably owing to her drawing a breath when taking it), and that it had lodged in the lower bifurcation of her right bron-

chus. I raised her hips and waist high, and asked her friend who accompanied her to pat her back; the result was a sudden cough with dark expectoration. When she had recovered her breath, directly I raised her as before the pill was ejected into her handkerchief. It was elongated, and retained the white coating at the ends, but this had been dissolved off where the pill lay in contact with the mucous membrane of the bronchus.

Clifton.

FLOODINGS IN EARLY PREGNANCY: RUPTURE OF MEMBRANES AT SEVENTH MONTH; DELIVERY AT FULL TIME.

By J. CHALMERS ROBERTSON, M.B., C.M. EDIN.

MRS. E——, aged twenty-six, multipara, was irregular in her periods from the end of July, 1889. In the first week of October of that year she had a very profuse period, which lasted for several days, and three weeks later she experienced an equally severe loss. On Dec. 15th she had another flooding, and I was called to see her, and I believed from examination that she had had a miscarriage, but as what had passed had been thrown away before my arrival I was unable to say definitely. On Dec. 25th another flooding occurred, and she was kept in bed for eight days under full doses of ergot. On April 29th, 1890, I was sent for, and found that she was well advanced in pregnancy. She had been awakened from sleep by the sudden discharge of the liquor amnii, and thought labour was about to commence, hence her calling in assistance. To her surprise, and mine too, the waters kept draining away till June 24th, when she was delivered of a fine male child. Now, reckoning back 280 days from June 24th, the pregnancy commenced about Sept. 18th, and therefore these floodings occurred during the first fourteen weeks of pregnancy. I saw two of them, and they were not mere slight discharges, for the bed was saturated with blood on each occasion.

My object in recording this case is to show that pregnancy may go on notwithstanding severe floodings in the early months and the premature discharge of the liquor amnii.

Wandsworth Common, S.W.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ST. MARY'S HOSPITAL.

A CASE OF SYPHILITIC CRANIAL NECROSIS; REMARKS.

(Under the care of Mr. PAGE.)

IN all cases of necrosis of the bones of the skull, there is danger of the extension of inflammation to the membranes of the brain, producing convulsions and a fatal termination. It is, however, uncommon to see such extensive cranial and cerebral disease the result of syphilis as this case presented, and it had points of interest which Mr. Page has fully indicated in his remarks.

C——, aged forty-nine, was sent to St. Mary's Hospital on Sept. 24th, 1890, in the hope that an operation might rid him of a cerebral tumour which it was supposed had very recently made its way through the bone and scalp to the surface, and had been the cause of fits from which he had suffered for the past twelve months. In August, 1889, his health having been previously good—gonorrhœa acknowledged, syphilis denied,—he had two fainting fits, and six weeks afterwards he began to have spasmodic seizures of the right arm and leg and right side of the face, and in two fits with these characteristics he was unconscious. The fits increased in frequency, sometimes with, sometimes without, loss of consciousness, and in the month of December he gradually lost the use of his right arm and soon afterwards of his right leg. Then for the first time he went under treatment, rapidly improved, and by the end of February, 1890, he believed he was well, in so far that he had almost regained the use of his limbs. During this period of two months he had been taking iodide of potassium, but although the fits continued in March and the following months it does not appear that iodide was given again for more than a few days. Looking to the improvement which had followed the former administration, it is a misfortune that his strenuous, yet no doubt perfectly honest, denial of syphilis was deemed a sufficient reason for not pushing antisyphilitic remedies at the time when they might have been of real curative value. The spasms are described as having always begun in the right hand (fingers not specified) and arm, as having next invaded the right leg and then become general, with great respiratory embarrassment and complete loss of consciousness. There was no headache and no optic neuritis. So things continued until September, 1890, when these new features in his case—to wit, a discharging sore on the top of his head, bare bone felt by the probe, an orifice leading into the cranial cavity, and a mass of tumour-like granulations around it—seemed to provide a reasonable explanation of the symptoms throughout his illness. In this condition he was brought to the hospital, there being then unquestionable right hemiparesis. No time was lost in exploring the cranial sinus, which lay to the right of the middle line in the parietal bone, an inch behind a point midway between the root of the nose and the occipital protuberance. This crateriform opening, the size of a shilling, had every indication of being due to tertiary syphilitic necrosis, and apart from the granulations there was no sign of tumour growth. Accordingly, the granulations and the margin of the orifice were thoroughly scraped, and the man was put on fifteen-grain doses of iodide of potassium thrice daily. The propriety of this treatment was indicated, not only by his history and the aspect of the sinus, but also by the presence of a softening gumma on his left leg. This treatment led for a time to decided improvement; the wound became clean, he had no fit until Oct. 17th, and he regained considerable power in his right limbs. The temperature, however, did not fall to normal, nor did the sinus cease discharging, and on Nov. 19th it was thought right again to anæsthetise him and make another opening, for purposes of drainage, in the vault of the skull. More especially was this advisable, because the probe could be passed between the dura mater and the bone over nearly the whole extent of the vertex. This counter-opening was made with an inch trephine at a point two inches in advance of the other opening, immediately to the left of the middle line. The circle of bone thus removed had obviously no inner table, the place of which, and of that of the diploë, was filled by somewhat adherent inflammatory semi-purulent yellow material—broken-down gumma. The whole internal surface of the bones of the vault felt uneven and rough, as if from them also the inner table had been necrosed away. From the large cavity thus laid open between the bone and the dura mater there was now removed by the spoon and by irrigation a large quantity of the same sort of material as had been found on the under surface of the piece taken out by the trephine. A rubber tube was passed from one opening to the other, in order that the cavity might be irrigated and drained, the hope being that it would in time be obliterated by return of the dura mater to its contact with the skull. It was difficult to estimate the size of the cavity, but the dura mater seemed to be depressed for half an inch, and from the anterior opening the probe could be passed from three to five inches in every direction.

Pausing for a moment in the history, it now seemed abundantly clear that the case was really one of tertiary syphilitic necrosis of the inner table only of the affected bones, and that the accident, so to say, of a perforation having taken place at one spot had been a safety-valve against pressure on the brain, which otherwise must in time have become dangerous from the increasing accumulation of inflammatory matter. And it was hoped that the cleansing and drainage of the cavity between the dura mater and the bone, together with a prolonged course of the iodide, might ultimately lead to cessation of the morbid process and the patient's cure. For a time he seemed much better in himself, as well as in the amount of discharge, in the appearance of the aperture, the frequency of the fits, and the power in his right limbs. He said, in fact, that his arm felt pretty strong again, and he was once more able to write. Notwithstanding these various indications of improvement, the operation was not followed by any fall in the tem-

perature; occasionally it was higher than before—102° to 104° F.; and the occurrence of rigors, even though at wide intervals, looked ominous of pyæmia—no unlikely thing in the circumstances of the case. From time to time he had fits, which began most often in the right arm, and sometimes in the leg, and once at least (on Dec. 5th) one of several seizures was noticed to begin in the *left* leg. It was the variability in the onset of the spasms and his continued high temperature which deterred Mr. Page from resorting to an operation on the brain itself, which the suspicion of a limited surface-"discharging" lesion, or adhesion of membranes to convolutions in the Rolandic area, had seemed to warrant.

In January and February the temperature rose still higher, and although the fits were not more frequent, he was obviously beginning to fail. It was a singular thing that throughout it all he had no pain in the head, and there was no optic neuritis. In March he became worse in every way—more rigors, higher temperature, greater emaciation, and severer fits; and all thoughts of further operation had to be abandoned. The gumma of the left leg broke down, and subcutaneous abscesses formed elsewhere. They were obviously pyæmic. From a violent fit on March 16th he never completely rallied, and died on the evening of the 17th.

From the report of the necropsy by Mr. Silcock the following facts are taken. There were the ordinary evidences of pyæmia in both knee-joints and in the lungs. There were old gummatous thickenings and cicatrices in the capsules of both liver and spleen. The outer surface of the right cerebral hemisphere was joined to the dura mater by soft adhesions in the upper part of its extent, while around the larger aperture, the anterior one made by the trephine, the adhesions were very firm, all the membranes and the underlying brain substance being firmly welded together. The part of the brain thus affected included the left ascending frontal and parietal convolutions. On cutting into this affected area, which was in such a position as to include "centres" of both the upper and the lower limb, the grey matter was seen to be quite destroyed over a small space, and leading from it was a tract of greyish-red fibres in the white matter. Except in certain places, the dura mater was abnormally adherent to the bone, and an irregularly shaped space was thus formed between the membrane and the skull. This space practically occupied the vertex of both hemispheres, but was divided by the bands of adherent membrane in a sort of cruciform manner. Both at the sites of these bands and also at other parts the inner table of the frontal parietal and occipital bones was almost completely destroyed, leaving the outer table covered with granulations. The dura mater was also covered with caseous matter, and greatly thickened in those other parts where it was not adherent to the bone. The longitudinal sinus was plugged.

Remarks by Mr. PAGE.—It has been impossible to give more than a condensed abstract of the lengthy notes of this long case, kept throughout with great care by Mr. Warren, Mr. Davis, and Mr. Graves, but in its main features the history perhaps is sufficiently clear. There can be no question, I think, that syphilis was the real cause of the multitude of gross lesions to which the symptoms were due; and it is a source of regret that antisyphilitic remedies were not pushed in the early period of the man's illness a year before he came to the hospital. It is a matter of conjecture where the lesion first began. Absence of headache was a remarkable feature throughout, and yet from the history it seems highly probable that in the beginning a limited local lesion involved the membranes and convolutions at the site named. The fits had all those characteristics, of onset and march of spasm, which are usually associated with a circumscribed surface lesion; and judging from the appearances on the post-mortem table the lesion might very easily have been removed by the knife, in case the symptoms had not subsided under the influence of iodide of potassium. From lack of treatment, I take it, the disease advanced, and there then secondarily ensued that extension of mischief in the bone which was perhaps the most singular element in the pathological process. By slow degrees the inner table of large areas of the flat bones of the vault was destroyed, and the steadily increasing quantity of broken-down gummatous and inflammatory débris separated the dura mater from the bone, and led to that accumulation of matter which was removed at the time of the operation. We had no knowledge of the man's mental condition during the period when his brain, as indicated by the depth and general size of the space between the dura mater and the bone, must have been subjected to no small amount of compression. That some very serious effect would in time have been produced by it is practically certain, had not the necrosis penetrated the parietal bone and so provided a safety valve. This perforation was made, however, at a great risk, and though it saved from one kind of death, it surely opened the way to another by reason of septicity and pyæmia. The destruction of bone was something altogether unusual, in that the inner table alone of so large an extent of the flat bones was involved in the necrotic process. Not less remarkable was the accumulation of inflammatory material between the dura mater and the bone, and the consequent separation of these structures from each other. In his "Illustrations of Clinical Surgery"[1] Mr. Hutchinson has a drawing of a brain which had been subjected to slow compression, and on the vertex of which there was found a depression deep enough to contain a fist and involving the two hemispheres equally. The patient had for many years been the subject of caries of the skull, and it was probable that for long he had had a sinus leading through the bone. The accidental blocking of this sinus led to his death from brain compression, and it is tolerably certain that in my own case likewise a time would have at length been reached when the accumulated matter would have exerted a pressure on the brain quite incompatible with life. I conceive that the cranial aperture saved him from this fate, just as the patency of the sinus in Mr. Hutchinson's patient kept him alive. In conversation with him, Mr. Hutchinson seemed to think it not improbable that these two cases (his and mine) were of the same nature. In his, however, there was no such evidence of syphilis as there was in mine. I have laid stress on the likelihood of good which would have followed an earlier and more persistent administration of antisyphilitic remedies, and this view was confirmed by the post-mortem appearances, for not only was there no active necrosis going on at the time of the man's death, but the adhesions of the dura mater and the general diminution in size of the cavity between that membrane and the bone showed there had been some efforts at repair.

GUEST HOSPITAL, DUDLEY.

OPERATION FOR TUBERCULAR PERITONITIS; RECOVERY.

(Under the care of Dr. ARTHUR UNDERHILL.)

WE publish the following case of operation for tubercular peritonitis, as the result of the operation was very satisfactory and convalescence rapidly ensued. We have already referred[2] in our columns to the communication made by König to the International Medical Congress held in Berlin on the subject of tubercular peritonitis. He collected 131 cases in which laparotomy had been done for this disease, of which 120 were females. He states that laparotomy will cure a quarter of all cases; 107 were much relieved; some had remained well for many years. The danger of the operation is not great—only 3 per cent. mortality—as opposed to the fatal nature of the unattacked disease. The chief elements of success appear to be the employment of a sufficiently large incision and the thorough evacuation of fluid and removal of tubercular masses and organs. Most of the cases healed without antiseptic washing out. König also referred to the results of post-mortem examinations in the Göttingen Pathological Institute, and of 107 cases of tubercular peritonitis no less than 99 had coexisting tubercle of the lungs. For the notes of this case we are indebted to Mr. J. Howard Wilkinson, resident medical officer.

M. T——, a married woman aged twenty-three, was admitted to the Guest Hospital on May 6th, complaining of constant pain in her abdomen and gradual abdominal enlargement. The history was as follows: Her health had always been good until her confinement twelve months ago. She had then a difficult labour, but no inflammatory complications. She did not, however, regain her usual health, and ten months ago noticed some swelling of the left side of her abdomen at the lower part. The swelling gradually increased, without pain, until four months ago, when she commenced to have shooting pains in each groin, and was

[1] Vol. i., Plate 35. [2] THE LANCET, vol. i. 1891, p. 213.

obliged to adopt a stooping attitude when walking about. She has not menstruated since her confinement. There was no pain when the bowels acted, but there was some constipation; no pain in passing urine. Father and mother living, and in good health. On physical examination, the abdomen was found uniformly distended, the superficial abdominal veins prominent, and the umbilicus displaced slightly to the left of the middle line. On percussion, dulness varied with the position of the patient, but was found to be persistent to the left and slightly below the umbilicus over an area about four inches in diameter. The feet were somewhat œdematous. Nothing abnormal in the lungs or heart was detected. The measurements of the abdomen were: xiphoid cartilage to symphysis pubis, 14¼ in.; xiphoid cartilage to umbilicus, 7¼ in.; umbilicus to symphysis, 7 in.; umbilicus to right anterior superior iliac spine, 8 in.; umbilicus to left anterior superior spine, 8 in.; girth of abdomen at umbilicus, 36 in.; middle line behind to umbilicus (left), 17½ in.; (right), 18½ in. The temperature on admission was 100°, and subsequently went up each night to 101° or 102° as a rule. The diagnosis was tubercular peritonitis, and Dr. Underhill decided to perform abdominal section.

On May 14th a three-inch long incision was made in the middle line below the umbilicus, and a large encysted fluid accumulation found, sixteen pints of yellow fluid being drawn off. Intestines covered with yellow and grey tubercles. The abdominal cavity was thoroughly irrigated with a hot dilute solution of creolin, the wound closed sutured, and dressed antiseptically. The patient was put to bed and ordered enemata of brandy, beef-tea, and milk every three hours, and two teaspoonfuls of brandy by the mouth every hour. An injection of morphia subcutaneously was also given.

May 15th.—She has been sick several times. Pulse 120; a good deal of pain occasionally; temperature 99°. A quarter of a grain of morphia was given subcutaneously.—16th: Tongue rather dry. No pain. Pulse 120. Says she feels better. Temperature 100°. Enemata continued.—17th: Given a little food by the mouth. Pulse 100, and improved in character. Tongue not so dry. No pain. Two sutures removed.—22nd: Patient much better. All the sutures removed. No pain. Enemata discontinued. Allowed chicken. Recovery from this time was only interrupted by a mild attack of urticaria, and the patient was discharged on June 12th quite well. The wound healed by first intention.

Condition on discharge: Linear cicatrix; no abdominal distension; girth at umbilicus 28 in.; abdomen quite soft on palpation; bowels acting regularly; no pain. The patient rapidly gained flesh and strength after the operation. She was seen on July 10th, and was then perfectly well.

MASSACHUSETTS GENERAL HOSPITAL, BOSTON, U.S.A.

A CASE OF SARCOMA OF THE TONSIL REMOVED BY EXTERNAL INCISION; RECOVERY.

(Under the care of Dr. JOHN HOMANS.)

INSTANCES of the removal of a tonsil the seat of a sarcomatous growth are not common, and we present our readers with the following description of a case, although some notes of it have already appeared in the *Boston Medical and Surgical Journal*. In cases where from the small amount of disease it is possible to remove the gland from within the mouth without external incision, that method is adopted. The desire, however, to make certain that all the growth has been removed may induce a surgeon to combine that method with external incision, although it may be possible that removal could be effected without. Czerny and Mikulicz combined section of the lower jaw with the external incision, the latter even resecting the ascending ramus of the bone. Both recommended the performance of a preliminary tracheotomy. By these methods the tonsillar region is certainly exposed in a complete manner, and the arrest of any hæmorrhage during the operation or afterwards made more easy.

Mrs. H. L——, aged fifty-nine, entered the Massachusetts General Hospital on May 30th, 1890. About eighteen months before entrance she had noticed swelling and ulceration of the right tonsil, which subsided under treatment. A few months later the swelling and ulceration again returned and again disappeared. In February, 1890, the tonsil again increased in size, and, as she says, "pressed farther into the throat, and she had a nervous feeling extending over the gums and jaw." Thinking this trouble might come from the teeth, she had them all removed, a proceeding which much facilitated the subsequent operation. She had no real difficulty in swallowing, but the passage of food through the pharynx was uncomfortable. In the out-patient department for diseases of the throat, on May 20th, Dr. Langmaid cut off half the tonsil with a tonsillitome, and sent the part removed to Dr. Whitney, who reported as follows: "An irregularly lobulated growth, homogeneous and medullary-looking on the section surface. Microscopic examination showed a structure of relatively large round cells, with fine fibrillated intercellular substance replacing the normal tonsil structure. In places there were relatively dense bands of fibrous tissue traversing the growth irregularly. The diagnosis is a round-celled sarcoma." The growth soon reappeared, and Dr. Langmaid sent the patient into the house for more radical treatment. The right tonsil was now enlarged to about twice the size of the left; it was not inflamed. Projecting from its centre was a soft red mass of about the size and colour of a wild strawberry, and shaped like a pine-apple.

June 6th, 1890.—An incision was made two inches and a half long from the right side of the hyoid bone to the mastoid process. The fasciæ were divided one after another, the edge of the parotid was pushed upward, and the submaxillary gland with the tendon of the digastric muscle downward. With the point of a director the constrictor of the pharynx and the mucous membrane in front of the tonsil were torn through. Scissors were used in the mouth to divide the pillars of the palate and the mucous membrane around the tonsil. Forceps were then introduced through the wound in the neck and the loosened tonsil pulled outwards, while its attachments, which were on the stretch, were divided by scissors introduced through the mouth. Only two small vessels required ligatures, a superficial branch of the facial and a small artery in the soft palate. The split in the pharynx, which was about two inches and a half long, was united by a continuous silk suture, and a quill drainage-tube was introduced through the external wound. Dry iodoform gauze with compression was applied over the wound in the neck. The complete absence of fat and of teeth in a thin, but tough and wiry, subject made the operation extremely simple.

7th.—Reports a comfortable night. She had a mouth-wash of permanganate of potash, and was fed solely by nutrient enemata every four hours.

8th.—Considerable swelling in the right pharynx, but no great discomfort.

9th.—Took three ounces of milk every two hours, and swallowed well. The swelling in the pharynx had much diminished.

10th.—External wound united by first intention; little swelling; drainage-tube removed.

15th.—Patient up and dressed.

20th.—The stitch in the pharynx was easily removed, and the patient was discharged well.

Remarks by Dr. HOMANS.—Perhaps this operation ought to be called "removal of the tonsil by the combined method of external and internal incision." In 1869, Dr. David W. Cheever of Boston, Professor of Surgery in Harvard College, removed a malignant tumour of the tonsil by cutting down on it from outside the neck and opening the pharynx. So far as he could then learn, the operation was original. Subsequently several treatises on Surgery, such as Bryant's "Sarcoma of the Tonsil," Gross's, and others, sustained his belief that the operation had not been performed before. Dr. Cheever found later that Dr. Hueter states in the "Jahresbericht der gesammten Medicin" for 1869, that he saw von Langenbeck operate externally and by sawing the jaw in 1865, and that he himself performed a similar operation in the same year. Both were cases of sarcoma. Langenbeck's recovered; Hueter's died. Nine years later (in 1878) Dr. Cheever operated again. In 1886 Dr. M. H. Richardson operated at the Massachusetts General Hospital successfully by external incision. The growth was a round-celled sarcoma. The patient recovered rapidly, and has remained well ever since. This case is reported at length in the *Boston Medical and Surgical Journal* of Feb. 23rd, 1888. From what has been written on this subject it is evident that the prognosis of cases of removal of the tonsil is much more favourable for sarcoma than for cancer. Dr.

Richardson's case and my own were cases of sarcoma, and in neither of them has there as yet been any recurrence. Dr. Richardson's patient has been well for four and a half years, and may be considered cured, but only a few months have elapsed since the operation in the present case. Mr. Butlin gives twenty-three cases of removal of tumours of the tonsil; of these, ten were operated on by external incision, and thirteen from within the mouth; two of the former proved fatal, and one of the latter. Richardson's case and my own make the number twenty-five—twelve by external incision, and thirteen from within the mouth. One case (Mr. Barker's, quoted by Mr. Butlin) was well a year after the operation. One by Dr. Gorecki (quoted by the same author) was alive and well two years later. One by Mr. Butlin himself was well four months after operation. Dr. Richardson's case was well four and a half years after operation, and mine showed not the slightest tendency to return after five months. All these were cases of sarcoma; the other twenty cases—mostly, I presume, cancer—are all dead. So far as I know, there is not a single case of cure of cancer of the tonsil by operation. I think that Mr. Butlin's conclusion, that "removal of the disease through an external incision (pharyngotomy) has hitherto proved a dangerous proceeding, and has not yielded as good results as operation through the open mouth," should be qualified, for of these five recoveries two were cases of external incision, and, as the whole number is only five, there must be three of one kind and two of the other. I am, however, free to say that my patient might perfectly well have been operated upon through the mouth, but I chose the external method because I thought I could get more room, control hæmorrhage easier, and remove a healthy margin with more boldness. In conclusion, I desire to express my thanks to Mr. Butlin for the article he has written on the tonsil, as well as the obligations I am under to him for what I have learned from his work on "The Operative Surgery of Malignant Disease," one of the most thoroughly satisfactory books that well-applied observation has ever given us.

Notices of Books.

Outlines of Medical Treatment. By SAMUEL FENWICK, M.D., F.R.C.S., Physician to the London Hospital; and W. SOLTAU FENWICK, M.D., B.S. Lond., M.D. Strasburg. Third Edition.—This book is well known to the profession, and its third edition calls for little notice from us. In the teeming medical literature of the day there is good room for such a book as this, dealing as it does mainly with treatment, and doing so, moreover, in a careful and practical way. This edition gives an excellent account of the latest improvements and advances in treatment—notably, of the treatment of pyrexia by the cold bath, and by means of Dr. Fenwick's own device of the ice cradle. Another novel and interesting feature of the book is a short account at the end of each chapter of the treatment of a disease by the French, German, and American methods. The list of prescriptions has been enlarged, and a chapter on Diet and Regimen has been added. Each chapter is preceded by sound general observations on the points to be kept in view on the given disease as to the nature, cause, and prognosis of the case. It cannot fail to be most useful on the table or in the carriage of every busy practitioner. There is, however, room for a chapter on the medical uses of electricity in its different forms. Occasionally, but very seldom, the treatment recommended is a little antiquated or open to criticism. The chapter on Delirium still smacks too much of the fear of discontinuing the alcohol which has produced the disease, and of faith in opium or morphia. It makes no allusion to the invaluable paper of Dr. George W. Balfour,[1] on the Use of Chloral, and the necessity for stopping the drink in this disease, which constitutes one of the most valuable contributions to practical therapeutics.

[1] THE LANCET, vol. i. 1879 p. 749.

Examen Químico y Bacteriológico de las Aguas Potables. Por A. E. SALAZAR Y C. NEWMAN. Londres: Burns & Oates. 1891.—This work on the chemical and bacteriological examination of potable waters is founded on a systematic series of examinations of different waters carried out in 1887–8 in the laboratory of the Naval School of Valparaiso, and is intended to serve especially as a guide to chemists and medical men in Chili who have occasion to report upon the suitability of waters for drinking purposes. It is exceedingly well got up—both the typography and engravings, which appear to have been entrusted to an English printer, being excellent. There is, too, in addition to valuable descriptive accounts of chemical and bacteriological processes, an important chapter by Dr. Rafael Blanchard of Paris on animal parasites introduced into the system by means of drinking water. Being written in Spanish, it will doubtless prove a valuable addition to the medical literature of the Peninsula and Spanish America, which is by no means replete with good bacteriological works.

The Pharmacopœias of the London Hospitals. By PETER SQUIRE. Revised by P. W. SQUIRE and A. H. SQUIRE. Sixth Edition. J. & A. Churchill. 1891.—A considerable amount of care has obviously been expended upon this useful compilation. Since there is nothing finite in prescriptions, and since the Pharmacopœias of the different hospitals are frequently undergoing revision, the editors of this little book have constantly to be on the alert. Since the last issue in 1885 more than half of the hospitals have passed their Pharmacopœias under review, and yet amongst the addenda the Pharmacopœia of one hospital is to be found "with alterations and additions from manuscript." The increase in the space now required by the formulæ sufficiently indicates that the different hospital authorities do not desire to simplify or reduce the number of compound drugs in accordance with the wish expressed in 1863, when the first edition of this book was issued.

The Medical Practitioner's Cash-book. Designed by Dr. C. R. ILLINGWORTH, Clayton-le-Moors. Manufactured and sold by James Broadley, "Gutenberg" Works, near Accrington.—If we may judge from a specimen page, this fresh addition to professional stationery ought to commend itself to medical men, especially to those engaged in general practice, as much from its simplicity in arrangement as from its comprehensiveness. Every sheet is ruled in headed columns to contain a full statement of income, expenses, and resulting balance for one month, one side being devoted to amounts received, the other to those expended. Thus the financial result for each month can be seen at a glance, and the trouble required in noting is merely nominal. By a simple arrangement of marks, the permissible deductions from income-tax can be stated in order on the expense page. It has often been said that medical practitioners are bad men of business, and we cannot either doubt the assertion or marvel that it should often prove to be true. Without much method and economy of time an opposite condition is altogether incompatible with the constant work, frequent worries, and innumerable interruptions of a doctor's life. The sheet which lies before us is a simple and ingenious device for ensuring the needed method. A reduction of the present cost (27*s.* 6*d.* for 200 folios) would probably be found remunerative.

CREMATION IN GERMANY.—The practice of cremation is on the increase in Germany. In addition to the crematorium which has been in operation at Gotha since 1877, and where from five to six hundred bodies are now cremated every year, a new establishment of the same kind was consecrated at Ohlsdorf last week. Another crematory will be opened in October at Carlsruhe, making the third in Germany.

Analytical Records.

CAFFYN'S MALTO-CARNIS c. COCOA.

(THE LIQUOR CARNIS COMPANY, LIMITED, 50, HOLBORN VIADUCT.)

The title sufficiently describes this preparation, and our examination confirms the description. From the presence of uncooked juice of beef, and consequently meat albumen, it turns semi-solid on heating, and the cold filtered extract rapidly digests starch, while the presence of cocoa is evident to the taste. Analysis showed—mineral matter, 2·50 per cent. (rich in soluble phosphates); total solid matter, dried at 100° C., 66·28 per cent. Nutritious and stimulating elements like these are rarely found combined in so satisfactory a manner as in this new and interesting preparation of the Liquor Carnis Company.

TABLOIDS OF COMPRESSED BISULPHATE OF QUININE (SOLUBLE SULPHATE), 3 GRS.

(BURROUGHS, WELLCOME, & CO., SNOW-HILL, E.C.)

Notwithstanding the fact that these tabloids are compressed and firm, each one falls to powder in water in little above forty seconds, the liquid rapidly growing fluorescent from the presence of acid sulphate of quinine. At the same time, the tabloid gives off a small quantity of carbonic acid gas, which, in disengaging itself, probably serves to bring about this rapid disintegration of the mass. On analysis each yielded quinia equal to 3·20 grains bisulphate. It is satisfactory to note that the prefix *bi*, which properly distinguishes the soluble and acid salt from the neutral salt, is used on the labels issued by this well-known firm. "Sulphate of quinine" is a vague expression, and is apt to mislead.

THE SANITAS DISINFECTOR.

(THE SANITAS COMPANY, LIMITED, BETHNAL-GREEN, E.)

The sanitas disinfector consists essentially of a neat gauze cage containing a small sack of absorptive material saturated with sanitas oil. It is made in a form convenient for nailing to the wall of a sick room, ward, or closet. The odour emanating from it is very powerful, and, to our thinking, not unpleasant. There is good reason to believe that sanitas oil is not only effectual in overpowering disagreeable smells, but that it is also conducive to a healthy atmosphere.

FRAME FOOD DIET.

(THE FRAME FOOD CO., LTD., LOMBARD-ROAD, BATTERSEA, S.W.)

The enrichment of cereal food with the valuable soluble phosphate which is otherwise thrown away in the bran is a process worthy of all commendation. The amount of phosphate in wheaten flour varies widely to the extent of from 0·3 to 0·9 per cent. To obviate this variation and possible lack of mineral matter, the Frame Food Company manufacture a preparation called Frame Food Diet in which the presence of a constant quantity of soluble phosphate derived from the bran may be relied upon. Samples we have examined contained 2·78 per cent. mineral matter, which analysis showed to consist of a goodly proportion of soluble potassium phosphate.

BREAD FRUIT FOOD.

(THE BANADINE CO., LONDON AND YORK.)

This is a food preparation into the composition of which the dried fruit of the ripe banana largely enters. In addition to this, bread fruit and other substances of nutritious value are described as having been added. The composition of the pulp of ripe banana fruit is, according to Erenwinder, as follows:—Nitrogenous matter, 4·82 per cent.; sugar pectose and organic acid, 19·65 per cent.; fatty matter, 0·63 per cent.; cellulose, 0·20 per cent.; saline matter, 0·79 per cent; and water, 73·91 per cent. While the food value of the ripe banana is recognised, we are not at all sure that its valuable properties would be retained in the dry flour, which must necessarily be submitted to the action of heat. We find as much as 17·51 per cent. nitrogenous matter—that is, nearly 2 per cent. in excess of that in good flour—while the mineral matter, consisting chiefly of carbonate and phosphate, amounts to 1·62 per cent. The microscope shows vegetable fibre of characteristic appearance, and long oval starch granules, which are probably identical with those of the bread fruit. In the mouth the food rapidly yields to the influence of the saliva, and the peculiar flavour of the banana soon becomes manifest. It is a decidedly novel preparation, and, in view of the nutritious value which our analysis would indicate it to possess, we should be interested to learn the results of its extended application to invalid use.

MISTURA CASCARA SAGRADA COMP.

(MACKEY, MACKEY, & CO., 1 AND 2, BOUVERIE-STREET, FLEET-STREET, E.C.)

The value of cascara sagrada as a tonic and stomachic in small doses, as an aperient in large doses, and as a cathartic when freely taken, is now very generally recognised. It is not surprising, therefore, to find manufacturing chemists directing a large share of attention to the perfecting of this drug. A preparation of recent production by the above firm has been submitted to us. It is evidently prepared from the finest of selected material, and with a care which secures the retention of all the active principles in the finished product. It is a sweet, syrupy, brown liquid of agreeable taste, faintly acid in reaction, and mixing perfectly with water. The flavour, which suggests aniseed, is pleasant, and we confidently commend this excellent preparation to the notice of the profession.

SARSON'S VIRGIN VINEGAR.

(WORKS, CITY-ROAD, E.C.)

Although vinegar cannot now be regarded as being mischievously adulterated, there is reason for believing that the acid of the good old-fashioned vinegar made from malt is frequently replaced by the acid obtained from the oxidation of the weak spirit produced from glucose, which in its turn is a product of the conversion of any form of starch upon prolonged heating with acid. Malt vinegar, however, like many other preparations of old formula, is to be preferred, and such, we believe, is Messrs. Sarson's. It is of excellent acid strength, containing 5·4 per cent. of the hydrated acid, and it is free from foreign matter. The total solid constituents amounted to 4·92 per cent., which on burning gave a smell characteristic of malt residue charring, the resulting ash being equal to 0·50 per cent.

GRANULAR EFFERVESCENT ANTALGIC (ANTIPYRIN) SALINE AND ANTALGIC TABLETS.

(W. R. WARNER, PHILADELPHIA.)

An ingenious combination of two active and well-known drugs is to be found in either of these preparations—antipyrin (Di-methyl oxychinicin $C_{11}H_{12}N_2O$) and salicylate of soda ($NaC_7H_5O_3$) $2H_2O$. They are accordingly regarded as of value in the treatment of neuralgic headache. While we admit this, we also are bound to urge that they should only be used at the discretion of the physician, in whose hands they will probably prove of decided value. Each affords a convenient form of administration, inasmuch as the exact quantity of drugs contained in them, as stated plainly on the label, is confirmed by our analysis. The effervescent powder, which is not unpleasant to take, contains in each dessertspoonful four grains each of antipyrin

and salicylate of soda, and the tablet, sweet and saline to the taste, two grains each of these drugs.

MUNK'S COD-LACTONE.

This is a preparation of emulsified cod-liver oil with lacto-phosphate of lime. The microscope shows but few irregularities in the size of the oil globules. It mixes very well with water or milk, and the taste is not repulsive, the assistance of a disguising flavour like cinnamon evidently having been resorted to. Sulphuric acid strikes a beautiful purple with the emulsion, and the ash was found to consist almost entirely of phosphate of lime. Cod-lactone is likely to prove of value, where indicated, as the condition of emulsion is of course calculated to promote speedy absorption.

New Inventions.

FORCEPS FOR CORRECTING DEFORMITIES OF THE NOSE.

IN recent fractures of the nasal bones, whilst the fragments are still fairly movable, nothing answers better for correcting the deformity than ordinary dressing forceps with one blade up the nostril and one outside. For old fractures, however, with displacement, or for lateral deviations of the nose, the result of former injury or of congenital defect, the dressing forceps are not usually strong enough to lift the displaced or fractured bones. For this purpose Messrs. Arnold and Sons of West Smithfield have made me strong forceps with blades moulded to the shape of the nasal bones

FIG. 1.

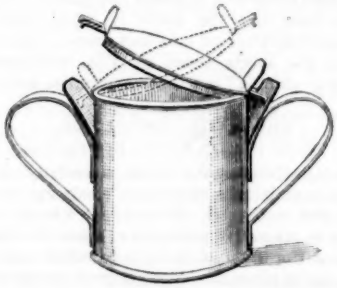
FIG. 2.

(Fig. 1). The larger blade is concave inwards to correspond with the convexity of the outer surface of the nasal bone; the smaller blade is convex inwards to fit in like manner the concave inner surface. Both blades are smooth, and when the forceps are closed do not touch, so as to prevent as much as possible the crushing of the soft tissues. The handles are long, to give a more powerful leverage, since very considerable force in long-standing cases has to be employed to move the displaced bone. In Fig. 2 the forceps are shown *in situ*. The forceps are made in pairs, a right and a left, and in three sizes to suit the size of the nose, age of the patient, &c. In using the forceps, say for a deviation of the nose to the left, the forceps for the right side had better first be inserted, and the right bone slightly corrected; then the forceps for the left side, to move the left bone. By alternately applying the right and left forceps the bones can generally be brought into place or their position greatly improved. Care should be taken not to break the skin or do more harm than possible to the mucous membrane. The skin gave way once in one of my cases, but healed by the first intention under a drop of collodion, and was never noticed by the patient. I have not hitherto seen any harm follow the use of the forceps, but I imagine some necrosis might occur if too much force were used or the coverings of the bone were extensively injured. In some cases it will be found of advantage to bend or break the nasal process of the superior maxillary bone. This, if necessary, can usually be done with the forceps. After reposition the bones should be kept in position for a week or more by a nasal truss. The form I commonly employ is one described in THE LANCET of July 6th, 1889, p. 12.

W. J. WALSHAM, F.R.C.S.,
Assistant Surgeon to St. Bartholomew's Hospital, and Surgeon in Charge of the Orthopædic Department.

A SANITARY SPUTARIUM.

THE advantages claimed for this new sanitary sputarium are the following. 1. When not in actual use any expectoration in it is kept completely under cover. 2. Having two handles, it can be passed from nurse to patient, or *vice versâ*, with less trouble than with the one-handled form. 3. The cover can be raised from either



handle—a very great convenience. 4. If necessary, the cover can be removed or replaced in a moment.. 5. The two parts are easily cleaned and rendered aseptic. 6. It is much lighter than those made in porcelain. 7. Not liable to be broken. It is recommended to be used with the antiseptic absorbent paper or sawdust to be procured from the manufacturer, W. Jones, 203, Old Christchurch-road, Bournemouth.

Bournemouth. F. W. CORY.

EXTRA MEDICAL SERVICES RECOGNISED.—The Leicester board of guardians has awarded to their medical officers gratuities of 10 guineas each for extra services rendered by them during the recent epidemic of influenza in that town.

LITERARY INTELLIGENCE.—We are glad to notify the appearance of an English edition of the excellent serial publication the *International Medical Bibliography* of Gustav Ruprecht (Göttingen). It has appeared quarterly for the past thirty years in Germany, and has served as the model for many similar compilations. The first part for 1891 is now before us, comprising the literature of the months January to March. The English publishers are Luzac and Co., and the annual subscription to the work is 6*s*.—M. Kolckmann announces that Vols. II. and V. of the Transactions of the International Medical Congress, Berlin, 1890, are now ready, and will be sent to members residing in the country on receipt of 1*s*. 6*d*. P.O. or stamps, and to those residing in London on receipt of 1*s*. stamps, free of charge. The price for non-members is—Vol. II., 14*s*.; Vol. V., 12*s*.

THE LANCET.

LONDON: SATURDAY, AUGUST 29, 1891.

IN our last issue we published a paper on the above subject by Sir WILLIAM JENNER. It is gratifying to find that the illustrious author has found time in his retirement to instruct and delight his professional brethren by the masterly handling of a subject which from its clinical and forensic aspects has been too much neglected. We notice the same careful collection and marshaling of facts and the same lucid reasoning that have always characterised Sir W. JENNER'S writings. Although the cases forming the subject matter of his communication happened many years ago, the exposition endows them with the freshness and interest attaching to recent peril and death from fire. Our readers will notice that one of the main features in the conclusions arrived at is the refutation of the popular idea that "burnt to death" is in most cases an extremely painful process. On the other hand, it will be observed that, although in the majority of instances life is destroyed by suffocation, there are some in which the post-mortem signs prove that ere life is extinguished the fiery element exerts its intrinsic physical action upon the unhappy victims. It must not be conceded, however, that where the bodies show signs of burning during life there has necessarily been a commensurate degree of suffering, for in all probability, whilst the skin still retains its vital reaction to fire, as proved by the resulting hyperæmia and vesication, insensibility, partial or complete, has supervened on exposure to the suffocating fumes. There are several points of pathological and chemical interest in Sir WILLIAM JENNER'S paper which demand careful attention. As regards the condition of the muscles, stress is laid upon the extreme and prolonged rigidity found in persons "burnt to death." The author of the paper attributes this to the action of heat superadded to cadaveric spasm. He contrasts the period during which the muscles remain stiff in cases of burning with others where death has resulted from natural causes. In the main no doubt this is correct, but the wide experience of poisoning by carbon monoxide gathered in recent years teaches that inasmuch as CO acts as a powerful deterrent to decomposition, it must therefore tend to prolong post-mortem rigidity. Of course the physical characters of muscle coagulation by heat will be apparent where this has taken place. The varying degrees of rigidity and their chemical correlations would form an interesting subject for research. In the cases detailed by Sir WILLIAM JENNER we find that life was destroyed in many mainly by carbonic oxide; in some carbon dioxide seems to have been the chief agent in the fatal event. In not a few suffocation was largely enhanced by the inhalation of solid carbonaceous matter, which acted as a powerful irritant to the air passages; and, again, mechanical injury had been added to the direct and indirect action of combustion about the body. It will be seen that, in several of the cases referred to, death was clearly due to two or more of the causes above mentioned. If we mistake not, Sir WILLIAM JENNER gives the condition of the *spleen* in nine out of the seventeen deaths recorded by him. In four it was abnormally pale, in three the natural brightness seems to have been heightened, whilst in two the reader would infer that there was nothing remarkable about it. In Case 16 "the spleen was pale," Sir W. JENNER remarks, and he appends a quotation from TAYLOR'S Jurisprudence, giving SSABINSKI'S observations to the same effect. At one time it was thought that this was one of the constant phenomena of poisoning by carbonic oxide. More recent investigation has shown that this is not so, and that, as a sign of death from CO, the "pale, bloodless condition of the spleen" is wholly unreliable. Dr. STEVENSON, in his report of the two deaths from water-gas—a mixture of CO and H—at the Leeds Forge in November, 1889, says that in neither instance did the spleen correspond to SSABINSKI'S description. The *fluidity of the blood* in death from fire Sir W. JENNER attributes to the effect of heat preventing coagulation. We are not prepared to deny the assertion; nevertheless, careful observation has shown that in most of the cases where human beings have succumbed to poisoning by carbon monoxide at ordinary temperatures, the blood has remained to a great extent or wholly fluid—a fact not agreeing with Sir W. JENNER'S statement: "When animals are killed by inhaling carbonic oxide—CO—at an ordinary temperature, the blood is coagulated, and very firmly." The transudation of blood from the vessels, as distinguished from extravasation, the author attributes to fluidity from heat and increased intra-vascular pressure from the asphyxial state. That a high temperature is not a necessary condition, however, is proved by the post-mortem report of the Leeds fatalities in Dr. STEVENSON'S paper, "Poisoning by Carbonic Oxide by means of Water Gas." In one of these, besides other proofs of transudation, there were "two ounces of blood and blood-stained serum in the subdural space, and the urine in the bladder was blood-stained." This would seem to show that carbonic oxide not only makes the blood "cherry red," but that it favours transudation from the vessels. The fluid state of the blood in like instances is spoken to by WHARTON and STILLÉ. In two of Sir WILLIAM JENNER'S cases the remains of the thymus gland were abnormally large.

PUBLIC announcement having been made of the existence of an alarming epidemic of pneumonia at Raunds in Northamptonshire, Dr. BRUCE LOW was instructed to report on the occurrence. As the result of his inquiry it transpired that a somewhat complicated malady had been prevalent, and that during the months from December, 1890, to March, 1891, no less than 155 children and infants had been attacked by "pneumonia," and 104 adults and children had suffered from a less grave malady regarded as tonsillitis or sore-throat. Of the graver malady Dr. LOW says that it always began with vomiting and great drowsiness; occasionally there was a convulsion. Then followed hot skin, flushed face, and hurried breathing, with rapid movement of the alæ nasi, accompanied by cough. Sometimes there were fits of screaming and squinting. Children suffered at times from herpes of the lips; a few had jaundice, diarrhœa, and even purulent discharge from one or both ears. In those above the age of three or four years a distinct rigor occurred, followed by pain in the throat, head, and side, but only slight redness of throat was

seen. Following a sudden onset came prostration, and later on emaciation, the illness terminating by a profuse and critical sweat, at times with epistaxis. At first the temperature was about 103°, reaching in severe cases 105°, and by the second or third day it fell to about 102°, and remained such during the rest of the illness. Mild attacks lasted about four or five days; the majority were of some ten to twelve days' duration; and in certain cases symptoms consistent with meningitis, such as delirium, fits of screaming, squinting, retraction of the head, convulsions, and coma, were observed. Enlargement of the parotid and cervical glands was also noted. Concurrently with this there was much tonsillitis. Thus mothers nursing their sick children suffered from it especially.

Beginning early in December, the greatest prevalence of the disease was between Jan. 24th and March 7th, and of the 155 persons having "pneumonia," at times with superadded throat affection, ten died. The graver form of the malady showed a marked preference for young children; indeed, taking both forms, 115 attacks occurred in those under five years of age, and of the "pneumonia" cases 69 out of 93 first attacks in households, and 41 out of 62 later attacks, took place at that age. In the same way the patients in all the fatal attacks but one were under five years of age. Taking the prevailing malady as a whole, it was regarded as "catching," and Dr. LOW, who cites a number of typical cases, also adds a group of facts bearing upon the communicability of the disease. The schools did not appear to have materially influenced the spread, this being in all probability due to the fact that some 50 per cent. of first sufferers in families were not of an age to attend school.

Heyford, about twenty-two miles south-west of Raunds and six miles and a half due west of Northampton, also suffered from a similar disease, pneumonia, sore-throat, and "head symptoms" prevailing. Some of the patients had purulent discharges from the ears, and two cases terminated with coma. Mr. FULLER, who observed most of the cases, noted extreme hyperæsthesia over the abdomen in some instances; in others there was stiff neck. One case observed by Dr. LOW began with vomiting, drowsiness, cough, panting for breath, fever, flushing of the face, diarrhœa, and running from the eyes. Later on convulsions, blindness, and retraction of the head at right angles with the spine ensued. Squinting supervened, with sudamina on the chest and abdomen, and paralysis of the left arm and leg. This child ultimately recovered, and all the more formidable symptoms disappeared, together with the signs of "bronchopneumonia," which were fairly prominent throughout. Some similar occurrences were heard of from other neighbouring localities, such as Kettering, Bugbrooke, and Northampton, but in no instance could anything approaching to the Raunds and Heyford outbreaks be heard of.

Summarising the information thus obtained, Dr. LOW states that since December of last year a marked prevalence of pneumonia, associated with tonsillitis and at times with brain symptoms, has obtained in various parts of Northamptonshire. Sometimes the pneumonia has been the leading feature, sometimes the brain symptoms; in certain cases both have been prominent. Here, practically, the official report terminates, the facts being the essential points recorded. But though Dr. LOW evidently holds that the time has not arrived for expressing a definite opinion on the nature of the prevailing malady, it is possible to read between the lines and to see some of the trains of thought that have passed through his mind. If we fail to see the facts in the same light in which they have appeared to him, it will be because they possibly admit of more than one interpretation. He more than once calls attention to a preceding prevalence of influenza; he also reminds his readers of certain occurrences of cerebro-spinal meningitis which occurred last year in certain parts of England, and it is within the knowledge of all that influenza made itself manifest in a considerable number of cases by cerebro-spinal, and notably spinal symptoms, and also by definite pulmonary symptoms of considerable gravity. The infectious pneumonia, as met with in Middlesbrough and other places, hardly seems to be here in question, but during recent years we have had prevalences of cerebro-spinal meningitis and of influenza wandering about in various parts of the world and of our own country. Is there some relation between these two complaints, in both of which affection of the nerve centres is so prominent a sign? Or has a recurrence of influenza, such as manifested itself in so many parts of England, been in this case associated with the cerebro-spinal prevalence which we noted last year, and which seemed to have travelled up the Mediterranean and to have shown itself in the eastern parts of England? The whole occurrence is involved in considerable obscurity; and we can hardly say more than that we seem to have to do with one or more of those diseases, capable of reproducing themselves by communication from person to person, which lack stability both as regards definite symptoms and permanency of the infective quality, but which, notwithstanding, prevail for a season in our midst, and exhibit for a time certain definite qualities which separate them from the more well-known and current infections to which we are accustomed in this climate.

MR. FRANCIS GALTON'S ingenious paper on Identification by Finger-tips, which appears in the August number of the *Nineteenth Century*, is sure to arouse considerable interest and discussion. "Everyone bears in his body," says Mr. GALTON, "a visible token of identity which has the unique value of persisting throughout his whole life. It apparently becomes defined some three months before his birth, and it remains unaltered after his death until the final stage of corruption." This token of identity "lies in the system of ramifications of the minute ridges that run across the palms of the hands and the soles of the feet, and it more especially resides in the scrolls or other patterns that the ridges form on the inner surfaces of the bulbs of the fingers." If such a sign of personal identity could be decisively established and made available for ordinary use, there are many ways in which it might be turned to great practical account. As Mr. GALTON says, "in criminal investigations it would settle questions of personation, of mistaken identity, and of previous conviction. In the army and navy it would afford a sure means of convicting deserters, and be a

powerful deterrent from desertion. It would supply an invaluable adjunct to a severe passport system. It would be of continual good service in our tropical settlements, where the individual members of the swarms of dark- and yellow-skinned races are mostly unable to sign their names, and are otherwise hardly distinguishable by Europeans, and, whether they can write or not, are grossly addicted to personation and other varieties of fraudulent practice."

To establish the feasibility and utility of this method the following points are, as the writer indicates, indispensable. First, it must be shown that the markings on the finger-tips follow definite patterns that are capable of minutely accurate description. Then there must be satisfactory evidence that the markings are persistent during the life of the individual. Next, some method of precise comparison between different fingers must be devised. Lastly, some simple plan of taking and preserving finger markings must be suggested. On all these points Mr. GALTON has much that is ingenious to say, and he entertains no doubt that each and every difficulty may be successfully surmounted.

Everything obviously turns upon the nature, persistence, and recognisability of the patterns of the little ridges on the finger-tips. These patterns "are formed by the convolutions of delicate ridges, each of which is seen to be studded with small holes, which are the open mouths of ducts issuing from the perspiratory glands. As a rule, the issues of all ducts are surrounded by slight elevations of the skin, but those on the inner surface of the hands and feet have the peculiarity of not being contained in separate elevations like craters in elevated cones, but of occurring along ridges, like the craters which stud the crest of some long mountain chain." The ridges are based upon the subcutaneous papillæ, and serve to render more sensitive our sense of touch. The peculiarities of the patterns which these ridges form on the finger-tips are due to the finger-nail, which "disturbs their parallelism and squeezes them downwards at either side of the finger." Thus the ridges nearest the tip are the most arched, those that follow are less so, and the arching insensibly disappears about the level of the joint. When a print of these markings is obtained and scrutinised under a lens it is found "to abound in minute peculiarities, due to the branchings of existing ridges, and to the abrupt interpolations of new ones. It is in these minutiæ, as well as in the general character of the pattern, and *not* in the measured diameters of its outline, in which the extraordinary persistence resides. The pattern grows together with the finger, and its proportions vary with fatness or leanness, while both are further deformed by usage, gout, and age, which make the hands of old people less sightly than those of young ones." Evidence is given of the persistence of even the most trifling peculiarities. In the case of eight pairs of impressions there were reckoned 296 points of comparison, and every one of them was found to hold good—i.e., each peculiarity in the markings on the patterns persisted in spite of the growth of the part or its change in shape from disease, or other cause. In only one single case was it found "that the forked portion of one ridge in a child of two years and three-quarters had become fused by the time he was a boy of fifteen."

Some principle of arrangement and classification of these finger patterns is obviously required. Mr. GALTON finds that every pattern can be easily sorted under one of three fundamental heads—viz., primaries, whorls, and loops. To understand these terms our readers must refer to the plates contained in the article, which render the classification much clearer than any written description could do. Each fundamental variety is further subdivided into two, according to the direction of its slope, either from below upwards and inwards, or (less frequently) from below upwards and outwards.

For the purpose of registering these finger patterns, Mr. GALTON has devised a little apparatus, "consisting of a little box three and a half inches square by seven and a half long, containing a slip of stout glass, a small and good printer's roller, a collapsible tube filled with very fluid printer's ink, a book of blank paper, and a phial of benzole and some rags to clean the fingers. A drop of ink is squeezed out of the tube on to the glass, and is spread very evenly and very thinly over it by the roller. Then the fingers are lightly pressed, first on the inked surface of the glass, and afterwards on smooth paper; finally, they are cleaned."

Mr. GALTON concludes with the suggestion that, should finger printing come to be adopted as a useful custom, the carrying out of the process might be conveniently entrusted to the photographers as a body. "They are a class of men who are naturally gifted with dexterity of fingers, mechanical aptitudes, versatility, and some literary taste. So far as they are engaged in portraiture, they already occupy themselves in supplying one means of identification; therefore the pursuit of another means of identification would in some sense lie within their present province."

Without expressing any opinion as to the feasibility or utility of Mr. GALTON'S suggestion, we notice his article partly as one of a most ingenious nature, and partly as an example of minute observation and precise description. It is impossible to exaggerate the supreme importance of rigid accuracy in all scientific work. Broad, bold views and comprehensive generalisations are, no doubt, the condition of all great steps of scientific advance, but laborious accuracy and patient observation must precede. Mr. GALTON has given on many previous occasions, and strikingly so in the article before us, an object lesson in the application of these qualities—a lesson which will not be lost upon the workers in the fields of medical science.

THE relations of the pharmacist to the public and to the medical profession are sure to come to the fore in any address at a Pharmaceutical Conference. They seem general topics well adapted to engage attention, and they serve well enough to show the particular views of the orator and to put him in sympathy with his audience. In the presidential address at the recent Conference at Cardiff these topics were, however, only lightly touched upon. Mr. MARTINDALE referred to the scant meed of gratitude earned by the pharmacist, and to the likelihood that in the future the distinction of constituting "the fourth estate of medicine" would be usurped by the nurse, and he did not suggest any means by

which this usurpation could be prevented. He admitted that pharmacists rarely, if ever, see the patients "while suffering acutely," and he stopped short of any revelations which might have been interesting, though vexing, to those general practitioners who constantly deplore the evils of counter-prescribing. It was clearly a more congenial task to turn to the growth of modern pharmacy, and to follow Dr. LAUDER BRUNTON'S well-known "transition periods" in the treatment of disease, which recognise as distinct developmental changes the advance from the crude remedy to the extract or solution, and thence to the separation of the alkaloid or active principle; while the final goal, the position which we are assumed to have reached in part, consists in the manufacture of remedies without seeking to extract them from natural products. To follow Mr. MARTINDALE through his address is to read the history of the modern synthetical compounds; and undoubtedly he establishes the position he claims—namely, that the chemist has been in advance of the physiologist, if only because the activity of the former produces far more synthetical substance than the physiologist has time or inclination to test. But it is possible to be too sanguine about the future. It is admitted that the prognostications of the effect of these artificial compounds on disease have not always been fulfilled. In the earlier portion of the address it is granted that the actions of remedies are "modified to some extent by what constitutes life," and this perplexing modifying cause is most operative in disease. The whole of medicine is not to be expressed as a mathematical equation, this unknown quantity frequently producing disquieting results, which leave the probable mode of action of a new aniline derivative a matter of speculation and experiment not devoid of risk. The extension of the compulsory course of medical study to five years supplied the President with an occasion to deplore the supposed perfunctory manner in which medical students perform their practical dispensing; but there is a lack of logic in the conclusion that six months' practice under the eye of a pharmacist would solve this difficulty. The schedules are at present signed to the effect that the student has received instruction to the satisfaction of the teacher, and surely the mere payment of a fee ought not to be able to command this satisfaction, even though the course of training may have been extended. Other topics which were passed under review were the various recent suggestions for the treatment of tuberculosis, the chloroform and ether controversy, the report on the revision of the British Pharmacopœia, and the new syllabus of the examinations of the Pharmaceutical Society, these being dealt with thoughtfully and cautiously.

Annotations.

"Ne quid nimis."

THE HOMERTON HOSPITALS.

THE daily journals contain the *précis* of a communication from the Local Government Board which came before the Managers of the Metropolitan Asylums District on Saturday, and which declares the decision of the Local Government Board after inquiry into the allegations made against the management of the Eastern hospitals. These allegations were, the Board's inspectors report, for the most part unfounded or exaggerated. Three charges are, however, held to be true: (1) that the dietary was too monotonous; (2) that dancing was permitted (apparently on a particular occasion) in one of the wards; (3) that the disinfection was open to criticism.

The report ends with the surprising announcement that the Local Government Board had called upon Dr. Collie to resign. We say surprising, because there appears, as far as we can gather from the newspaper reports, to be no proportion between the amount of the punishment and the nature of the offence, if offence there be. The dietary was, we assume, that approved by the Managers and given with the knowledge of the Local Government Board, for the hospitals have been under the inspection of the officers of that Board; and these reports afford no evidence that the attention of the Managers or of Dr. Collie had been directed by the Local Government Board to that point. The question of disinfection is a difficult one, upon which opinions may reasonably differ, and so far, it would seem, there is no decision that Dr. Collie has been negligent, but that existing arrangements are not now considered satisfactory. The Managers are of course aware whether the Local Government Board had previously objected to these arrangements. There is no sufficient information given as to the act of allowing dancing in a fever ward to enable any opinion to be expressed as to whether it constitutes an offence. Dancing itself is an innocent amusement which is permitted in public institutions. The whole question is whether the circumstances under which it occurred give evidence of any neglect of the welfare of the patients. The information at present available is altogether insufficient for the purpose of forming an independent opinion upon this important case, and we therefore defer further comments until the full facts are in our possession.

QUARANTINE.

A WRITER, who signs himself "Quarantine," in a communication to *The Times* in defence of quarantine, not only makes a number of assertions which are in no way warranted, but evidently fails to apprehend the most important ground on which that system is objected to by nearly every public health authority of any note in this country. He begins by stating that our English laws as to compulsory notification of infectious diseases, and as to isolation, are nothing more or less than quarantine under another name. Here he at once ignores a vital difference between the two sets of measures. In quarantine the healthy are detained, however great their number, on mere suspicion of infectious disease, such as cholera; and they are detained under precisely those conditions which are calculated to ensure the spread of disease amongst them. But under our English system, whether cholera or the ordinary current infectious diseases be in question, the sick alone are detained, and the healthy, instead of being herded together under conditions which have often been disastrous to them, are, on the contrary, allowed to go free, each sanitary district in this kingdom being expected to have reasonable means for preventing the spread of disease in their midst, in case it should be imported or otherwise appear. To ignore this essential difference between the two systems is a blunder of the first magnitude. It is true that "Quarantine" refers also in his letter to our method of dealing with cattle diseases; but, quite irrespectively of the fact that these diseases were not in question at the recent debate on quarantine at the Congress to which he adverts, it cannot be pretended that the lives of human beings and those of brute beasts have anything in common in this matter. The compulsory slaughter of a thousand bullocks, and the compulsory detention of a thousand healthy

human beings sailing from an "infected" Indian port to this country, amongst cholera patients and amid the filth of a quarantine establishment on the shores of Arabia, are two sets of circumstances which ought never to have been compared for the purposes in view. But, again, "Quarantine" says that it will be many years before Egypt and similar countries can with any safety adopt our alternative system. He is right; but he does not explain why this is so. The answer is, because so long as the inhabitants of these countries are told that their Governments will protect them by quarantine restrictions against such diseases as cholera, they are not likely to spend their money in the adoption of those sanitary measures which would give them a security far in excess of anything that quarantine can afford, and which would further incidentally lead to the saving of many thousands of lives from other diseases. It is no secret that it was due to the persistence of the French delegates at the Rome Conference in 1885 that the maintenance of quarantine detentions was agreed to by the majority of the Technical Commission. And what has been the result? Dr. Rochard, one of the very delegates in question, in a paper dealing with this subject at the recent Congress, admitted that, with the exception of Naples, not a single Mediterranean port had so much as commenced any sanitary work since the cholera epidemic of 1884–86. "What greater condemnation," asked one member of the Congress, "could be supplied in proof of the vicious and lamentable results of the system of quarantine?" This is a point to which advocates of quarantine would do well to address themselves.

BURIAL OR CREMATION?

THE advocates of cremation of late have met with much encouragement. Several influential societies have declared in their favour. They have been strongly supported by voice and vote at the meeting of the British Medical Association, and in the Public Health Section of the Congress on Hygiene. The Church Burial Reform Association, through its representative, assures them of its tacit sanction. If not for, it is not against cremation. Those who advise and practise the latter method, however, are not equally complaisant towards the less radical group of reformers. It is true that they abjure all claims to an exclusive right for their system, and it would indeed be impossible for them to maintain any other attitude. They are not wanting, however, in the kind of exclusive pretension which commonly distinguishes the promoters of new and ambitious customs. "Earth-to-earth" burial, with them, is "a feeble remedy for a great evil"—namely, that of decay under the present insanitary conditions. They assert that unless it is displaced by their own more drastic means of treatment it will be impossible to stamp out infectious diseases. It must be allowed that even these extreme statements are not without some foundation in fact. Nothing, indeed, is more true than that burning entails the most rapid and absolutely perfect destruction of all organic matter, and of every form of infective germ. It may be true likewise that the process is equally free from all risk of hurtful consequences to the living. All this, however, does not prove that the final disorganisation cannot safely be carried out by gradual subterranean changes, or that the funeral pyre, though it were in universal use (which is practically impossible) would ensure the extinction of morbid contagia. The sources of these, it must be remembered, are not found only in the graves of their victims. At least as much may be said for burial as for the substitute method. Decay is, after all, a process as truly natural as birth, growth, and death. It has always had its place in the world's economy. Air, sea, and earth, each of them in virtue of a definite chemical composition, have from all time received and changed into pure and productive elements the bodies which at first were formed of their constituents. They have carried out this work with entire success, and perhaps with less injury to living matter than is commonly supposed. Their capacity for the purpose, as far as we know, is unlimited, if only the conditions needful for their activity be duly respected. It may seem conservative on our part to ask that their service be not suspended, but aided by the absence of human interference; in a word, that burial should continue, and that we bury, not a coffin of remains, but a body. It may appear more scientific to take the work out of Nature's hands and to give it over to an engineer. For us, however, there is about this change of management an artificiality which is not compatible with the history of success in other movements of the same magnitude. We may depend upon it, that if both systems are permitted to continue side by side, the better will ultimately prove its quality, and so far we can see no reason to distrust the power of mother earth to reorganise what is visible of death without corrupting life. Only, let her work in the seclusion of wholesome distance, and without let or hindrance.

THE DANGERS OF DOMESTIC LIGHTING.

WHATEVER the form of lighting apparatus we employ, the possibility of accident has always to be reckoned with. Defective oil lamps are a standing menace to personal safety. The most perfect self-extinguisher will not justify incautious use. The electric wire is not above suspicion. Certainly gas is not, and of this we are unfortunately reminded by a recent case of fatal injury, the result of an explosion of gas which had escaped from a pendant. The primary cause of the escape is not clear, for the gaselier was one of the ordinary water-slide variety, and apparently in working order. It is possible that some personal error, such as the mismanagement of a stopcock, was really accountable. At the same time it is well to note that pendants constructed on this principle are liable to occasional derangement from exhaustion of their water-supply. Thus an insidious leakage may occur at any time, and its true source may easily escape detection. It is probable that comparatively few persons understand practically the working of a water-slide, simple though this is; a circumstance which is partly explained by the fact that in many gaseliers the slide itself springs out of an urn-like structure of tempting shape, but useless as a receptacle for water. For this reason we should certainly, as a safer arrangement, prefer a series of wall-brackets placed at a sufficient height above the floor. It is, above all, needful to remember that no one method or system of lighting can prove satisfactory unless its proper safeguards be known, remembered, and used with sense and care by those immediately concerned.

THE TREATMENT OF FURUNCULOSIS.

DR. VIEL publishes in the *Monatsschrift für Pract. Dermatologie* an interesting paper on the treatment of furunculosis. He says that the first aim of such treatment should be to destroy the pyogenic coccus in the skin by anti-parasitic remedies before necrosis of the tissues has taken place. If this necrosis has already taken place, then the separation of the necrotic mass and the expulsion of the pyogenic cocci should be accelerated as much as possible. The next aim should be to prevent by injections a new formation of boils. Lastly, the system should be prepared to resist a new invasion of the cocci. The author says that it is rarely possible to fulfil the first condition, and when once the invasion of the pyogenic cocci has produced visible alterations, such as swellings, nodes, or vesicles, necrosis has occurred, and the glandular secretory

tract is occluded by pus. This prevents any antiseptics which have been applied to the skin from penetrating to the pyogenic cocci at the fundus of the gland. It is, therefore, impossible for the carbolised mercurial plaster of Unna, the concentrated spirituous solutions of boracic acid recommended by Lowenberg, and many other applications, to do any good. The injection of a 3 per cent. carbolic acid solution, and the introduction of a wire armed with nitrate of silver, are most painful, and, after all, uncertain. In speaking of the next condition of treatment the author decidedly recommends the old method of hot poultices. He considers that no remedy leads so quickly and certainly to the desired result To prevent infection of the neighbouring tissues he recommends washing the skin with cotton wool dipped in a 1 per cent. solution of corrosive sublimate, or, when the skin is very sensitive, of a 4 per cent. aqueous solution of boracic acid, before the application of each poultice. At night the boil is covered with a paste of equal parts of zinc and vaseline with 4 per cent. of boracic acid on lint. He also recommends that very indolent boils should be opened, and thinks that it is wrong to squeeze them too soon. The paste also serves to guard the neighbouring glands from infection. When a bath can be borne, the author prescribes sublimate baths. He gives his patients highly nourishing food, and, when they are anæmic, preparations of iron.

A TRIBUTE FROM FRANCE.

Le Progrès Médical of Aug. 22nd, in giving an account of the final meeting of the International Congress of Hygiene, after expressing regret that the subject of quarantine was not more favourably considered, goes on to add that everyone must admit that this Congress has been the most brilliant of the year—in the numbers of its members, the position of those taking part in its debates, and the nature and variety of the communications. Our contemporary notes with especial satisfaction the character of the reception accorded to the workers in the Pasteur Institute, and especially the warmth with which the communication on the Treatment of Rabies by Dr. Roux, "le savant infatigable, le modeste *alter ego* de Pasteur," was received.

BATHS AND MINERAL WATERS FOR THE POOR IN ITALY.

AN Italian correspondent writes: "Modern Italy is far inferior to ancient Rome in the appreciation and practice of bathing, whether for ordinary ablution or for medical treatment; but there are gratifying signs of her return to a *culte* which, so far as she is concerned, has been too long a distinctive note of paganism. Not only among the favoured classes is there a more habitual resort to the daily tub for its tonic as well as its abstergent virtues, but among the poor there are symptoms that the efforts made by philanthropic societies for giving them access to bathing establishments, at rates within their scanty means, are loyally responded to. A still further step in this salutary direction has just been taken at Milan, where a Società Coöperativa per le Cure Balnearia e Climatica has been set on foot for the benefit of the working classes. Its programme, now before me, states that after due concert and deliberation, it has been found practicable to extend the coöperative principle to an organised system of treating the ailing or invalid poor at spas adapted to their several needs—wherever, in short, mineral waters, in the form of bath or beverage, are indicated for them. Climatic change, itself a valuable remedial agent, is also contemplated in the programme for the benefit of the weakly or convalescent subject, tried, as it has already been, with conspicuous success in the 'holiday home' movement in Switzerland and Germany and in the seaside hospital in Italy. The Society has already entered into negotiations with the directors of some of the chief watering-places throughout the peninsula, and its proposal to construct its bathing establishments in their vicinity has met with reassuring encouragement. A beginning will be made in the Alta Italia, in connexion with which a seaside home on the Riviera Levante is already in contemplation. By next summer the Society announces that its scheme will be *un fait accompli*, to be extended and improved according as opportunity indicates or experience suggests. Milan has long taken the lead in public movements of every kind, but seldom with a more laudable purpose than the present."

THE LEPROSY COMMISSION.

THE third number of the Journal of the Leprosy Investigation Committee, which has recently been issued, contains copies of communications from Dr. Buckmaster reporting the steps taken by the India Leprosy Commission during the year. It is accompanied by a chart showing the districts visited, which comprise nearly every important centre of leprosy in British India. The latest communication, dated "Simla, June 1st," states that Drs. Beaven Rake and Buckmaster have, "quite independently, by the employment of a perfectly original method, and one never before used in inquiries of this nature, perfectly succeeded in cultivating the bacillus of leprosy." The Commissioners were also devoting themselves to the preparation of their report. There is no question that the inquiry has been of a most thorough and exhaustive character, and much valuable information will in due course be in the hands of the Government.

CYTOGLOBIN AND CYTIN.

DR. WILHELM DEMME, in his inaugural dissertation for the M.D. diploma of the University of Dorpat, discusses cytoglobin, a substance which Professor A. C. Schmidt had found in various cells, especially in those of the liver and lymphatic glands. The *St. Petersburger Medicinische Wochenschrift* gives an abstract of the paper. It is somewhat difficult, and takes some time, to separate this new albuminoid, which is decomposed by boiling and by acids. The author first deprives the cells of various extractive substances by placing them for about nine days in alcohol; the residuum is then dried and rubbed to a fine powder, and mixed with thirty times its volume of water, which, after standing, dissolves nearly all the cytoglobin. The quantity of cytoglobin is about 3 per cent. of the lymphatic gland pulp, or nearly 27·8 of the dry residuum. Cytoglobin is distinguished by the following points. It is a white powder soluble in water, but insoluble in alcohol and ether. The opalescent solution gives a deposit with alcohol without coagulating. It decomposes peroxide of hydrogen easily with effervescence. Acetic acid and diluted mineral acids separate it into a substance easily soluble in water containing H C N S and P, and an albuminoid, insoluble in water, called Präglobin, which, like globins, dissolves in neutral salts and alkalies, but which is distinguished from all known albuminoids by being insoluble in excess of acetic acid, even when boiled. The proportion of these substances is as 43 to 57. Boiling produces a milky opalescence in cytoglobin solution, but the decomposition appears to be different from that caused by acetic acid. The addition of artificial gastric juice containing hydrochloric acid destroys the albuminoid in cytoglobin solution by decomposition, but the whole mixture is but little digested in twenty-four hours, even if kept warm. Artificial digestion with Kühne's dry pancreas had not any effect. The substance, which is soluble in water, has no albuminoid reaction, but contains 15 per cent. of nitrogen. The author

adds the results of the elementary analysis of the cytoglobin and of the two substances into which it breaks up. A second dissertation in the same university by Dr. Adam Knüpfer follows up the foregoing research. This observer found cytoglobin to be ferruginous, and showed that the soluble substance produced by decomposition with acetic acid is again separated by the action of alcohol into two substances, which are, however, as yet by no means very well made out, but they both contain N, S, P, and Fe. The chief part of this dissertation is, however, taken up with the examination of the substance called by A. Schmidt "cytin." This is the insoluble cellular substance which forms the residuum when all substances soluble in alcohol have been removed by extraction after the cytoglobulin has also been removed by the action of water, and a 10 per cent. solution of chloride of sodium has taken up all traces of globulin. Cytin was prepared by the author from lymphatic glands and liver cells, but there is no doubt that it exists in all other cells in the body. The following are its characteristic reactions: It is soluble in water, alcohol, and ether, and readily so in a boiling saturated solution of caustic soda, which, however, produces decomposition. The alkaline solution is neutralised by acetic acid, and an albuminoid is deposited which is insoluble in a solution of chloride of sodium and in acetic acid, while the solution retains a substance easily dissolved in water, and giving no albuminoid reaction. The proportion in which these two substances exist is as 67·5 to 32·5. Concentrated acetic acid partially decomposes cytin, and the solution shows an albuminoid reaction; this albuminoid substance is soluble in acetic acid, but not in a solution of chloride of sodium. Cytin easily decomposes peroxide of hydrogen. An addition of 0·2 of hydrochloric acid causes the cytin to lose a little of its albumen, which is digested by pepsin. From his own experiments, and those of Dr. Demme, the author concludes that the cells contain either no completely formed albumen at all, or only slight traces of it. The most important contents of the cells are extractive matter, to which category lecithin belongs, cytoglobin and cytin, which by decomposition primarily produce albuminoids. The preparation of these two substances has certainly enriched physiological chemistry with the knowledge of two new chemical factors, possessing a much more complicated composition than ordinary albuminoids, and clearly taking a higher place in the organism than the latter, as forming part of the cellular contents.

MILK INFECTION.

THE question as to whether milk derived from diseased cows is infectious has long been a matter of debate. Investigations carried on by various observers have been somewhat conflicting in their results, and more extended experiments must be conducted before any definite conclusion can be arrived at. In the *Medical News* for August 8th, 1891, there is an interesting paper on the subject of milk infection by Dr. F. J. Tower. He describes eight varieties of what he terms "poisonous milk." 1. The milk taken from a cow with garget, and allowed to stand for twenty-four hours, will, on proper treatment and great care and manipulation, furnish an alkaloidal substance, of which 0·01 grm. injected subcutaneously in a rabbit will produce death in about sixteen hours. 2. When adulterated with water, into which the excrements of a typhoid fever case have found a way, the milk will give the Ehrlich Diazo reaction. The destruction by disinfectants of the organisms in the fæces does not necessarily render them innocuous, for the poisonous albuminoids still remain, and, administered with the milk in which they are found, produce a typhoid condition in animals. 3. Milk from a cow suffering with anthrax, taken in the quantity of 0·3 grm., and injected at the base of the tail of a mouse, will in two days kill the animal, and the blood will be found to teem with the bacillus anthracis. 4. The milk of an animal affected with any condition of debility or febrile disorder is viscid, and will coagulate almost immediately on removal; it will be found to contain ammonium carbonate in very appreciable quantities, also several organisms, and appears under the microscope to resemble colostrum, which it is not, for a very small quantity of the milk added to fresh milk will produce a like condition. The reaction is very alkaline, the milk has a peculiar soapy taste, and the milk globules are irregular in shape, the emulsion being poor. 5. In milk which has stood in a damp place for twelve hours tyrotoxicon is found to such an extent that many cases of poisoning are already on record, and many more, in which the cause of death was only suspected, might have been traced to the presence of tyrotoxicon in food containing the milk. It is the product of several varieties of bacteria, and Dr. Tower was unable to procure any pure culture from milk containing it. The cases of ice-cream and cheese poisoning are in most instances due to the same agent. 6. Among the colouring material sometimes used to give skimmed milk a creamy appearance is a substance which is very frequently adulterated with red lead, and the anatto (so-called) becomes a poisonous substance, and quite unfit for use. Saffron is also used as a colouring material for milk, butter, and cheese. 7. Dr. Tower found the milk from a swill-fed cow to contain one of the confervæ, a low order of vegetable life—in fact, an alga. The fats are deficient, the milk is thin in consistency and of a faint bluish tint, very much like skimmed milk. 8. In many specimens of milk there is found the oïdium lactis, which exerts such a detrimental influence upon young bottle-fed children. Whether it is the actual presence of the oïdium or the inferior quality of the milk that causes the disturbance Dr. Tower has not been able to demonstrate.

DRAINAGE IN ITALY.

PROFESSOR PACCHIOTTI, member of the Italian Senate, is not only one of the most ardent sanitary reformers, but one of the most eloquent speakers who habitually attends the International Congresses of Hygiene. Nor is his eloquence limited to his own beautiful language; in English and French he also carries his audience with him, and by the flowers of rhetoric and the poetry of his illustrations enthrals his hearers. We have now before us, however, a paper (read at the recent Congress) which, for pithiness and for the amount of facts it contains in a small space, proves that Professor Pacchiotti can also make a clear business statement. Italy, we are told, is transforming itself by means of sanitary reforms. The Government, the Parliament, the municipalities, hygienists, engineers, and the entire press are agreed in their desire to renovate, embellish, and purify the towns. Progress, however, seems to have been somewhat impeded by the contests between the advocates of the separate system of drainage and those who plead for the *tout à l'égout*—namely, the drainage of rain water and sewage proper in the same sewer. Rome for 2700 years has drained everything directly into the sewers. This system was established by the Tarquins, continued by the Republic, the Empire, the Popes, and, since 1870, by the Italian Government. Sewers are now being constructed at Naples, though the separate system has been adopted in the lower part of the town. At Milan a sewage farm was established 300 years ago, and there are sewage farms at Cöni, Venice, and Florence. This system is being studied, and excellent projects have been prepared at Spezia, Reggio Emilio,

Ancona, Bari, Catana, and Messina. At Palermo and at Massa Carrana there are two projects based on the Waring or separate system. In the great capital of Sicily an ardent theoretical dispute has broken out, and at Carrara experiments of the rival systems are being made on a small scale. With regard to Turin, Professor Pacchiotti's own town, a commission was appointed to investigate the matter in 1880. Three years later a project in favour of draining everything into the sewer was presented. This was referred to a second commission, who three years later (in 1886) reported in diametrically the opposite sense—that is to say, in favour of the separate system. Then great discussions took place between the two parties, and M. Bechmann, the chief engineer for the town of Paris, was invited to draw up a project for the water-carriage system. A commission, consisting of four engineers and an eminent hygienist, was appointed to decide, and the separate system was rejected unanimously. But the municipality of Turin still hesitates. Dr. Pacchiotti is convinced that Turin could be easily drained by water carriage, and that sewage farms close to the town could be established. He lays down the following principles, which he submitted to the International Congress of Hygiene: 1. Every town ought to choose the system most suitable to the particular locality, for there is no one system applicable without exception to every town. 2. Every town which possesses a sufficient fall and a sufficient water-supply, to ensure free circulation in the sewers and to prevent all stagnation, should adopt the system of draining everything into the sewers, for this, more than all other systems, is the nearest approach to perfection. 3. All towns which possess within reasonable distance permeable soil suitable for the filtration of sewer water should profit by this fortunate circumstance to establish a sewage farm. 4. When it can possibly be avoided, sound principles of hygiene are opposed to the draining of the rain water of a town into the neighbouring river, because modern chemical analysis and bacteriological researches have demonstrated that this rain water pollutes the rivers as much as sewer water.

"PSEUDO-TUBERCULOSIS."

ON July 10th of this year M. Hayem read a paper before the Société Médicale des Hôpitaux (*Revue Générale de Clinique et de Thérapeutique*, July 15th) on a case diagnosed as one of Addison's disease, but which proved to be one of "pseudo-tuberculosis," a condition well known in animals, but not hitherto described in man. The patient was a youth seventeen years of age, without any hereditary history of tubercle, who had had typhoid fever at the age of thirteen. For several months prior to coming under observation a slight bronzing of the skin was noticed. This was followed by general malaise, with vomiting and all the signs of a febrile gastric affection. The temperature remained raised for several days, and then dropped. The patient then appeared to fall into an algide state. The extremities were cold, temperature subnormal, and he complained of vague muscular pains and extreme weakness. A diagnosis of gastro-enteritis was made, but no cause could be discovered. The tongue was pale and furred; vomiting became more frequent; there was great thirst; the stools were normal, but sometimes diarrhœa occurred. Liver, spleen, and lungs normal; cerebral symptoms absent. The patient eventually died of cardiac collapse. Owing to the increase in the bronzing of the skin the diagnosis of Addison's disease was finally made. At the necropsy the right supra-renal body was normal, but the left was found to be transformed into a greyish mass; the glands of the neighbourhood were normal. The greyish mass was softened in the centre, which was surrounded by round cells. No tubercular nodules could be seen, giant cells were absent, and the search for tubercle bacilli was unsuccessful; but, on the other hand, the bacilli of pseudo-tuberculosis were found. The stomach was normal. The intestines were somewhat inflamed, especially around Peyer's patches. The follicules, both isolated and agminated, were enlarged, and in them the characteristic bacilli were found; the blood also contained them. The lungs were normal. Cultures made from the blood, the intestine, and all the abdominal organs produced similar bacilli to those obtained from animals which had died of pseudo-tuberculosis. Inoculation made on animals from the cultures produced the disease. This is characterised by the formation, especially in the abdominal organs, of a condition which to the naked eye is precisely similar to miliary tubercle. Small nodules are formed, which under the microscope are seen to consist of collections of small round cells, surrounded by cells more epithelial in character; giant cells are rare. The bacilli are extremely difficult to stain in the tissues, but cultures are easily made. The organism grows well on all the ordinary media, especially nutrient gelatine. In forty-eight hours at the ordinary temperature a luxuriant growth results. The bacilli are short thick rods, appearing at first sight almost like diplococci. Under a high power, however, the rod formation is undoubted. The bacilli exhibit a great tendency to run together into rods; in fact, some authors have declared that the organism is polymorphous. Animals inoculated with the fresh culture die in from ten to fourteen days. Intra-venous injections produce death in about forty-eight hours, without the formation of the characteristic lesions. This disease was first described by Malassez and Vignal in 1883, and since that time two or three varieties have been recorded, but the subject requires careful investigation before any definite conclusions can be formed.

RAILWAY ARCHES.

A CORRESPONDENT, writing to an evening contemporary, objects to the use to which railway arches are frequently put. The railway companies let these arches, he says, to persons who use them as smith's shops, rag and bone stores, waste-paper stores, grain stores, &c., and asserts that they are structurally unfit for these purposes. He complains strongly of the smoke and noise, and fears that the effect of the Public Health Act will tend to drive persons who have these occupations from private premises in which they now carry on their trade into railway arches, where they become a nuisance to the surrounding neighbourhood. Whether a nuisance within the meaning of the Public Health Act is caused by these arches must be determined in each case, but there is no reason why the provisions of this Act should not be enforced in one place as the other. The complaint apparently relates in part to inconveniences which are not subject to control by this Act, but an appeal to the railway companies should not be without effect if proper representations be made to them.

THE KNEE REFLEX IN EPILEPSY.

DR. VASILIEFF, though not the first to notice the fact that epileptic attacks exercise changes on the knee tendon reflex, has made a slight addition to our knowledge on the subject by a series of experimental investigations, carried on in the laboratory with the help of Marey's chronograph and Bekhtereff's reflexograph, the subjects being dogs thrown into epileptic convulsions by electrisation of the cerebral cortex. In the tonic period of the attack it was found to be impossible to excite the reflex, owing to the rigid state of all the muscles; in the succeeding clonic stage, however, the phenomenon was well marked. After a violent fit, accompanied by loss of consciousness, the tendon reflex was usually either entirely absent or very deficient in strength,

the change occurring within a few seconds at latest after the clonic spasms had ceased. The length of time during which the reflex was absent varied from one to twelve minutes, and it did not regain its normal force for a good while; in some cases not for half an hour or more. Sometimes, however, after it had become normal, a temporary increase in the force of the reflex was observed. It has been noticed by Dr. S. N. Danillo, too, that the knee reflex was absent in dogs in which epileptiform fits had been produced by absinthe. Dr. Vasilieff thinks that these observations may be of value in diagnosing true from spurious epileptic attacks. His paper, as well as those by Professor Bekhtereff and Dr. Danillo, dealing with the subject of the knee reflex, are published in the *Vrach*, Nos. 16, 22, and 26, 1891.

FEVER IN HYSTERIA.

THE *Pester Medizinisch-Chirurgische Presse* reviews at some length a paper published in a Hungarian journal, by Dr. A. Sabó, of the Psychiatric Clinic at Budapest, on Fever in Hysteria. It is, according to the author, observed either as continuous fever or in paroxysms. He also distinguishes, according to its intensity, a mild and severe form of fever. The continuous fever is analogous to long-existing disturbances of the sensorium—for instance, anæsthesia; or to the abnormal state of the motor-sphere observable in many attacks. The author compares the paroxysmal attacks with temporary anæsthesia or convulsions. Slight or severe fever may be compared respectively with trifling and serious symptoms in the sensorium or motor sphere. We may have to deal with a complication of both kinds of hysterical fever, just as a series of slight hysterical seizures may be interrupted by violent convulsions and *vice versâ*; it is also possible that during a continuous hysterical fever paroxysms may intervene. The author distinguishes as hysterical fever those cases in which the temperature does not rise higher than 101·75° F. He describes the following pronounced case of the malady from Laufenauer's clinic:—A girl of sixteen was admitted, suffering from hystero-epilepsy. Nine months previously she had fallen down unconscious at the sight of a corpse. Her face became cyanotic, and the whole muscular system was affected with clonic convulsions, which lasted a short time, and were followed by a return of consciousness. These attacks occurred once every week or fortnight. The patient had menstruated since her fourteenth year every second month, and from two to three days each time. Shortly before her illness she suffered from headache, and particularly from paroxysms of vertigo. There was some family history of neurosis. The patient on her admission was well nourished, her pupils large, and the right one somewhat larger than the left. She was myopic, particularly on the right side. On the same side she was rather deaf and devoid of olfactory sensation. Epidermic sensation of the right half of the face and body was entirely absent, also the sensation of heat and the stereognostic faculty. No active movements could be made on the right side, but passive movement was possible in all directions. On the same side the temperature was lower than on the other side, and the palm of the hand was frequently covered with perspiration. She became aware of the approach of the attack, which began with palpitation. Except the right hypochondrium, no part of the body was painful on pressure, but there was frequent formication in the right lower extremity. She could not walk or raise the right leg. Then there was an attack of fever, complicated a month later with the menses, which began with violent abdominal pains. The temperature at 1.30 P.M. was 38·9° C. A violent hystero-epileptic fit then occurred, which lasted twenty-three minutes. On the following day at the same time the temperature was 38·5° and the pulse 92. On the next day the temperature was 39·1°, with singultus for twenty-three minutes. The next day the temperature was 39°, the pulse 150, and the respiration 52. These paroxysms of fever lasted two weeks, without any other change in the organism except an increase of urea. The temperature of the right side, which was anæsthetic, was always from 0·3° to 0·5° lower than that on the left, and the right extremities were paralysed. Debove and Moravcsik, who have studied this difference in the temperature most carefully, have found that the body-heat may be considerably raised by suggestion—an observation which is all the more important as showing that the cardinal symptom of fever may be of functional origin. Chauveau considers this hysterical fever to be either primary—that is, without any traceable cause—or secondary, as an exaggerated reaction of the nervous system from a trifling organic disease. Dr. Sabó, however, excludes all cases of organic disease, such as vaginitis and gastro-intestinal affections, characterising hysterical fever as a disease without appreciable cause. For differential diagnosis the author mentions as most important typhoid fever, tubercular meningitis, phthisis, and intermittent fever. Tachycardia hysterica often leads to a correct diagnosis of hysterical fever. The prognosis is naturally connected with the prognosis of the hysteria, which latter is consequently the chief object of treatment.

THE EFFECT OF HYDROFLUORIC ACID ON THE HEALTH OF WORKMEN.

THE factory inspectors of Graz report that the workmen at certain glass works, who were occupied in applying acids to the glass, complained repeatedly, both verbally and in writing, that the work was deleterious to their health, as they suffered from vertigo, malaise, and dyspepsia. The pallor of these workmen seemed to confirm their complaints. They are accustomed to slightly touch the glass with a solution of hydrofluoric acid, which is transferred to the glass by means of camel's-hair brushes. The work itself is done by hand inside a wooden box, which is placed on the work-table. This box, which is connected with the chimney by a pipe eight centimetres in circumference, is meant to remove the gases and vapours which develop during the work. The men are also admonished to use the gutta-percha gloves supplied. The box is stated by the Government inspectors to be an insufficient protection, as the greater specific gravity of the gas permits it to collect in the work-room in spite of the exit pipe, and to become dangerous to the health of the workmen.

"ASTASIA-ABASIA."

IN the last number of the *Archives de Neurologie*, Dr. Bonamaison describes two new cases of the disorder to which this cumbrous and unsuitable name has been applied. The first is that of a girl of fourteen, whose family history showed the presence of gout, rheumatism, and asthma in the grandparents, migraine in the mother, and asthma in a brother. Nothing unusual had manifested itself in her condition until the year before she came under observation, during which she had suffered from gastric pain, rachialgia, and articular pains regarded as rheumatism by the parents. An attack of this so-called rheumatism preceded the onset of the condition for which advice was sought. For two months she had been unable to stand or walk. The lower limbs presented no abnormality, except a certain degree of hyperæsthesia. The reflexes were unaltered, and there were no contractures. As she lay in bed she could move the limbs perfectly, and muscular power was only slightly, if at all, impaired. She dragged herself about on her hands and knees; she could not walk a step, and fell as soon as she was raised from the ground unless she was supported. She completely recovered under suitable treatment, but had a

relapse subsequently to an attack of influenza, from which also she made a good recovery and has since remained well. The second patient was a young woman aged nineteen, whose parents were cousins, and whose brother and sister were neurotic, but who had enjoyed good health up to the age of sixteen. At this time she began to suffer from convulsive attacks, apparently hysterical, and to those, fourteen months before she came under observation, was superadded a condition of inability to stand or walk. She at times suddenly and completely recovered from this, but relapsed again. Her condition, in short, was exactly comparable to that of the first case. The reflexes were normal, and there was in the limbs no sign of organic change. Under treatment the attacks gradually disappeared, while the condition of the limbs varied from time to time. They were occasionally completely powerless, and at other times practically normal. We have formerly remarked on the undesirableness of distinguishing by peculiar and somewhat meaningless terms the more or less indefinite varieties of such a protean malady as so-called hysterical or functional paraplegia. The views entertained by different neurologists as to the nature of this condition are so various that it seems a pity to still further complicate matters by such a procedure, for we still fail to see in what the essential difference between so-called astasia-abasia, and ordinary functional paraplegia consists.

CHOLERA INTELLIGENCE.

IT is anticipated that some of the Mecca pilgrims returning to Europe are now due at certain Mediterranean ports, and, amongst other Governments taking precautionary measures, the Austrian Home Ministry has directed that the cholera regulations shall immediately be put in force as regards arrivals at their ports. Cholera is prevailing with considerable virulence around Cawnpore; the disease has attacked the civil lines, and Europeans have been carried off in a few hours. The tardiness in the arrival of the annual rains, and the failure to secure removal of accumulated filth as the result, are regarded as the causes of the severity of the outbreak.

LADIES' RIDING ATTIRE.

THOSE of our readers who take in or see the *Illustrated Sporting and Dramatic News* will probably have noticed some very well drawn figures of ladies on horseback, entitled "Riding on the Road." They are accompanied, as they should be, by one or two well-attired men on horseback, who may possibly be their riding masters. Such a group is frequently seen undergoing their lessons in riding at our fashionable seaside resorts. We have on former occasions called attention to improvements in riding habits, especially with a view to the increased safety of ladies on horseback in case of accident, and we are pleased to find that considerable advance has been effected in this respect. Fashion is capricious in riding habits as in other articles of ladies' attire; and it will be seen, on reference to the sketch above mentioned, that, in the place of the loose-flowing skirt, an unbecomingly tight one has come into vogue. We are not concerned with the artistic outline given to the figure by this modification of the garment so admirably depicted in Mr. J. Sturges' delineation of elegant figures on horseback in the issue of our contemporary of Aug. 22nd, though we are aware that such fashions are thought to be very "fetching"; but it is a matter of interest to our readers for us to point out that such tightly fitting habits, cut so exactly to the configuration of the female form, lessen freedom of movement in the event of accident, and therefore increase danger. Moreover, such tightly adjusted garments suggest that the underclothing, considering the amount of covering this portion of the body usually has, must be altogether inadequate. A sufficient freedom of movement should be ensured by the cut of the riding skirt, and underneath knickerbockers and gaiters in one should be worn, made of material sufficiently warm and elastic to suit the time of year—thicker in winter, and thinner in summer. Ladies will find such garments by far the most comfortable to ride in, the safest in the event of accident, and the best suited to promote health.

BEER-DRINKING AND HEART DISEASE.

IT is said (*Blätter f. Klin. Hydrotherapie*, 1891, No. 4) that disease of the heart is very prevalent in Munich, where the consumption of beer amounts, on the average, to 565 litres per head annually; and in the same place the duration of life among the brewing trade is shorter than that of the general population. Whereas the average age attained among the latter is 53·5 years, that of ale-house keepers is 51·35 years, and of brewers 42·33 years. The same note adds that for the whole of Germany the annual consumption of beer per head amounts to 88 litres, but for Bavaria it is 209 litres.

THE SURGICAL TREATMENT OF INTUSSUSCEPTION.

DR. SENN of Chicago (*Canadian Practitioner*, August, 1891) affirms that the treatment of intussusception should follow the lines employed in strangulated hernia; that peristalsis should be arrested by emptying the stomach, by suspending stomach feeding, and by the administration of opiates; and that, failing reduction by insufflation (with hydrogen gas), aided by inversion and complete relaxation of the abdominal muscles by the use of an anæsthetic, surgical interference is called for. Enterostomy and colostomy are only warranted if the patient's condition does not allow of laparotomy, which should be done in all other cases of irreducible invagination. The direct reduction in acute cases is aided by previous compression with a large sponge, to reduce the swelling of the intussusception, and is effected by drawing on the bowel in opposite directions, above the neck of the intussuscipiens, and upon the sheath below the apex of the intussusception, combined with pressure against the intussusception from below upwards. Adhesions between the serous surfaces may be separated by the use of a Kocher's director or a small pair of straight, blunt-pointed scissors before traction is made. After reduction any small patches of gangrene or rents of the peritoneal coat are to be covered by stitching the peritoneum over them. Recurrence is avoided by shortening the mesentery, by folding it in the direction of the bowel, and fastening the fold in this position with a few catgut or silk sutures. Dr. Senn's further conclusions, which are of great importance, hardly bear condensation, so we will quote them in their entirety.

"1. If the external surface of the bowel presents evidences of gangrene, disinvagination should not be attempted, and in such cases a resection is absolutely indicated. 2. The resection, under such circumstances, should always include the whole intussusceptum, but only so much of the intussuscipiens as is threatened by gangrene. 3. If the continuity of the bowel cannot be restored by circular suturing, either on account of the difference in size of the lumina of the resected ends or inflammatory softening, the same object is attained in an equally satisfactory manner, and more safely, by lateral implantation or intestinal anastomosis. 4. If the invagination is not extensive, but irreducible, and the bowel presents no signs of gangrene, the obstruction should be allowed to remain, and the continuity of the intestinal canal restored by making an anastomotic opening between the bowel above and below the invagination by the use of perforated decalcified bone plates. 5. If the invagination is extensive, irreducible, and the bowel presents no indications of gangrene ex-

ternally, the intussusceptum should be made accessible through an incision below the neck of the intussuscipiens and resected after securing the stump with an elastic ligature, after which the obstruction is permanently excluded by an intestinal anastomosis. 6. In irreducible colico-rectal invagination, or when this form of invagination has been caused by a malignant tumour, the intussusceptum should be drawn downward and removed by the operation devised by Mikulicz."

FASHION AND HYGIENE.

IT is satisfactory to find that fashion has at last brought in a reasonable covering for the head to which the most fastidious lady would find it difficult to take exception. The old beaver hat has come in again, and bids fair to rival most of the other head-coverings, whether in the form of bonnet or hat; for, indeed, beaver is a material that admits of being moulded into almost any shape or form, and remoulded time after time when it has been seen sufficiently often on any individual head to make it distasteful. The particular suitability of beaver in this or that design, or in this or that colour, for this or that configuration of face or tint of complexion, is not a matter we are much concerned with, though we see no reason why it should not be adapted to any requirements; but it is with the material as a healthy head-covering, either during the approaching inclement period of the year or during finer weather even, that we interest ourselves. For years past ladies have been led by fashion to display entire disregard to the elementary principles which should guide them in this respect, for it may be said they have not adopted any real head-covering either for themselves or their daughters. While we avow, on the one hand, that we are in no way indifferent to the elegant appearance of the fair sex, and do not desire to detract from their fascinations, we, on the other hand, know of so many lamentable results in sickness and suffering that we cannot fail to impress on those of our readers who have reasonable influence over their lady patients (as most successful practitioners have) that they now have a favourable opportunity of calling the attention of their fairer patients to the hygienic improvements this autumn is likely to bring about in the material for ladies' hats and bonnets. It may seem a small matter for us to concern ourselves with or direct attention to, but we nevertheless hope that, small as it may appear, it will not be without influence in the fashions of the approaching autumn in ladies' head-coverings. We have had submitted to us recently three specimens of beaver hats, fitted to suit ladies from girlhood to middle life, which seem to be unexceptionable. Now that hygiene has been so recently brought under public notice, the public mind will have been prepared to consider it even in a matter apparently so non-medical as the fashion in ladies' hats and bonnets.

SUDDEN DEATH IN MANIA.

IN a recent number of the *Journal of Mental Science* Dr. James R. Whitwell discusses the pathology of sudden death occurring in the course of acute mania, and he is inclined to the view that in cases in which sudden collapse occurs, and in which the presence of recent hæmorrhages can be excluded, some pulmonary or cardiac condition is likely to be found of sufficient magnitude and gravity to be pointed to as the immediate cause of death. Of the cardiac conditions found under those circumstances, organic valvular lesion or some change in the muscle, such as fatty degeneration, is the most common; while of pulmonary conditions, congestion and œdema, or actual pneumonia, are probably of most frequent occurrence. Œdema may occur as a result either of heart lesion or of pulmonary embolism, not necessarily associated with any cardiac abnormality; while pneumonia may be present as a result of cardiac or other complications, or as an intercurrent disease of the same character as occurs in a sane and healthy individual, or as an inflammatory condition of the lung superadded to and probably dependent upon fat embolism. Two cases are quoted in which death took place suddenly in the course of acute mania preceded by collapse and cyanosis, but without marked failure of the pulse such as is to be expected in syncope. In the first case there was marked œdema associated with fat embolism of the lung. Sections stained with osmic acid showed emboli scattered throughout them, both in the capillary vessels and in the smaller branches of the pulmonary artery. In the second case, numerous embolic areas were visible, and a part of the upper lobe of the right lung was in the stage of grey hepatisation, while in sections stained with osmic acid numerous fat emboli of various sizes were found. As to the source of the fat in those cases, Dr. Whitwell is of opinion that our knowledge is not yet complete enough to enable us to come to a definite conclusion. There is evidence, he thinks, however, to show that fat embolism may occur without rupture into any pre-existing fat in the body, and that in such cases it may be due to some obscure change in the blood producing a condition of lipæmia, and possibly originating in the bone marrow, as the result of long-continued and severe mania or convulsions. His conclusions, therefore, are as follow: that fat embolism is a not infrequent cause of sudden collapse, which may result in death, in cases of mania; that the occurrence of such a condition is suggested during life by the sudden collapse, dusky pallor, or cyanosis and dyspnœa, with the usual physical signs of pulmonary œdema or secondary embolic pneumonia, and is indicated after death by the presence of intense œdema, localised pneumonia, and actual infarcts in the lung; and that the source of the fat is not at present certainly known, but that it may occur without discoverable lesion of bone or subcutaneous tissue, and may be the result of a blood condition.

SANITARY PROGRESS IN INDIA.

THE special meetings held during the sittings of the recent Congress on Hygiene and Demography to consider the question of sanitary progress in India deserve the more attention because India is so often referred to at such gatherings as the permanent centre whence cholera spreads to Europe, and as calling for much more active sanitation than has yet been applied to it. Three papers were communicated by native gentlemen, and the details quoted by them as to the conditions of filth under which a large proportion of their fellow subjects live were certainly sufficiently appalling to a modern sanitarian. The stories as to the pollutions to which the water-supplies are subjected, even by those who resort to them as beverages, and who seem to think that internal and spiritual cleansings are potent according to the degree of filth attaching to the water of ablution, go very largely to support the views of those who hold that very wholesale measures of sanitary reform are called for, and that a grave responsibility attaches to the Government of the Empire whence such vast bodies of pilgrims go regularly to the holy places in Arabia, where their arrival is so commonly the signal for an outburst of cholera. But, on the other hand, the papers read by Sir William Moore and Surgeon-Major Hendley demand at least equal attention. These go to show that, compared with former times, vast changes for the better have already been effected, and that a large proportion of the evils still to be contended with become almost impossible of amendment by reason of the fact that the traditions and the religious practices of the natives are opposed

to cleanliness and to sanitation. The difficulties placed in the way of reform are in some respects well-nigh insuperable, and to those who accuse the British Government of neglect in this matter a speaker at the recent Congress answered that more had been done in India during recent years than in almost any other country, whether Asiatic or European; whereas, on the other hand, those countries which declaimed most loudly against British India were precisely those which might well be called upon to begin reform in these matters at their own doors at home. But with all this we must admit that the disclosures made and admitted as to the conditions under which the natives often live in India do not redound to our credit, and that, whatever preferences the natives may have for the use of water which they themselves deliberately foul, it must be remembered that such customs can never be changed until the localities in question are provided with an adequate supply of wholesome potable water that shall be preserved from all extraneous sources of pollution. This is essentially the direction in which more rapid sanitary progress is needed and called for in British India.

THE LATE PROFESSOR MARSHALL ON CANCER.

WE were enabled to publish last week an instructive and posthumous essay from the pen of one who may justly be regarded as having been a philosopher as well as a surgeon. It raised several important topics in the natural history of cancer, and contained suggestions which are worthy to be followed up. The main question dealt with by Professor Marshall in this paper is one which has exercised the minds of pathologists since the microscope was first applied to investigate the structure of new growths. There is no doubt that the retention of the word "cancer" in the old generic sense has led to much confusion, owing to the recognition of the fact that there is hardly anything in common, except in regard to the character of malignancy (and this varies with the separate types), between the group of carcinomas, on the one hand, and those of sarcomas on the other. The late Professor Marshall has here offered to pathologists a nomenclature which has the merit of being comprehensive, and also fairly descriptive of the conditions named. Thus he makes two great groups of the "cancers," or malignant tumours—viz., (A) thelioma and (B) sarcoma. This division differs in one respect from that usually adopted—viz., in the inclusion of certain mesoblastic growths among the "theliomas." In other words, Professor Marshall, regarding the serous membranes and vascular linings as "surfaces," would transfer the so-called "endothelial sarcomas," or "endotheliomas," from the sarcomas to the theliomas, and he terms them "mesotheliomas." There is a certain convenience in this arrangement, but it seems to derange the conception of the unity of pure mesoblastic (or sarcomatous) formations. We may freely concur in his differentiation of *epi*-theliomas from *hypo*-theliomas, and think it one well worthy of adoption. We are pleased, also, to find so capable an authority declaring that the line between different groups of tumours may be drawn too sharply; and we are sure that every practical pathologist will confirm his statement as to the occurrence of mixed growths, in which connective-tissue elements and epithelial elements are equally concerned. It is more philosophical to admit the possibility of some malignant tumours having an origin in all three layers of the blastoderm than to attempt in every individual case to regard it as necessarily the product of only one of the layers. Several other suggestive utterances are contained in this posthumous paper, amongst which may be noted the writer's firm adhesion to the doctrine of inheritance in cancer, and his suggestions as to the influence of occupation in its production.

IT is reported that the Medical Congress will not be held this summer at St. Petersburg on account of the great prevalence of sickness and disease in the provinces.

Pharmacology and Therapeutics.

INJECTIONS OF CAUSTIC POTASH IN EPITHELIOMA.

PROFESSOR ROSSANDER of Stockholm has communicated to the Swedish Academy of Sciences a detailed account of some interesting observations on the treatment of epithelioma by injections of caustic potash around the tumour, by which four cases were stated to have been entirely cured. This amount of success, in his opinion, rendered it obligatory on him to report the matter to the Academy, but he is most anxious to avoid raising too great expectations of the general efficacy of this treatment in the present state of his observations.

PYRIDIN IN GONORRHŒA.

Pyridin having been strongly recommended as an injection in gonorrhœa by Rademacher, Dr. Dollenberg of Königsberg writes to the *Allgemeine Medicinische Central Zeitung* to say he has tried it in all stages, and in several different strengths, with entirely negative results.

SUBSTITUTES FOR IODOFORM.

Substitutes for iodoform which have, or are thought to have, all its valuable antiseptic and deodorising properties without its penetrating odour, have for some time been in use in the form of iodol, sozoiodol, and aristol, and it is by no means surprising to learn from a German pharmaceutical journal that an addition to this little group has just been prepared. The chemical name of the new substance is "iso-butyl-ortho-cresol-iodide," and its commercial name "europhen." It occurs as a yellow amorphous powder, with a slight odour resembling saffron. It is insoluble in water and glycerine, but it dissolves in oil, alcohol, ether, and chloroform more readily than aristo. It has a somewhat resinous feel, and adheres to the skin or mucous membrane and to the surface of wounds quite as well as aristol, and better than iodoform. It is one of the lightest of the substances forming the group referred to, having two-thirds of the specific gravity of sozoiodol, half that of iodol, and less than a fifth of that of iodoform, so that a given surface would require five times as much iodoform as europhen to cover it. The latter has also the additional advantage of not caking so easily as the former. Ointments and solutions of europhen must be prepared in the cold, and solutions require filtration, as an insoluble iodine compound tends to form, which sometimes causes them to assume a gelatinous consistency. Europhen is not poisonous. Half a drachm or more can be given to a dog with impunity. In the human subject fifteen grains produce no disagreeable symptoms except perhaps a slight feeling of weight in the stomach. Dr. Eichhoff has prescribed it with great advantage in several venereal and syphilitic cases, obtaining very satisfactory results in both soft and hard chancres, in mucous patches, and in tertiary ulceration, by means of 1 or 2 per cent. ointment. Hypodermic injections of from one to two grains of europhen dissolved in oil, repeated daily for from twenty-four to forty days, completely cured three cases of secondary syphilis without any other medicament. Attempts to cure gonorrhœa by injections of an emulsion of europhen of the strength of from 1 in 300 to 1 in 75 proved a complete failure owing to the painful irritation set up. Excellent results were obtained by the application of europhen to simple ulcers either in the form of powder or in that of ointment, but these proved useless in parasitic eczema, psoriasis, and favus. In general, it was found that europhen acts only when brought in contact with secreting surfaces, whereby it is decomposed and iodine liberated. When it is applied to dry surfaces it appears to be inert, except, indeed, that, if in an ointment of greater strength than 2 per cent., it acts as an irritant and sets up eczema. Various preparations are manufactured for surgical and gynæcological purposes—e.g., 5 and 10 per cent. gauze and vaginal suppositories. As exposure to light decomposes europhen as it does aristol, it is important that these substances should be kept in dark glass bottles. Bacteriological experiments have been carried out by Dr. Siebel, who finds

that europhen has destructive power for micro-organisms quite equal to that of iodoform.

ACTION OF ADONIS VERNALIS IN DROPSY.

Adonis vernalis is said to have been introduced into the regular materia medica as early as the latter part of the sixteenth century, being mentioned by Hieronymus Tragus. Since that time it has frequently been described or recommended in pharmaceutical and medical works, and during the last ten or twelve years has formed the subject of numerous papers by British, American, and continental observers, amongst the most important of which may be mentioned those by Bubnoff of Professor Botkin's clinic, Cervello, Gluzinski, Huchard, Da Costa, Oliver,[1] and Sergênko of Kazan. These authors all agree in regarding adonis vernalis or its glucoside, adonidine, as a heart tonic and a diuretic, and as bearing more or less resemblance to digitalis in its action. A fresh work on the subject has just been published by Dr. A. N. Lavrovski, whose observations were made on ten male patients suffering from dropsy, who were kept in a ward together in the Alexander hospital in St. Petersburg. The special object of this research was to discover the effect of adonis on the insensible loss from the lungs and skin in dropsical cases. For this purpose the observations were divided into three periods of several days each, during each of which the ingesta and egesta were carefully weighed and examined, and by that means, together of course with weighing the patients, the insensible loss could be accurately ascertained. It was found that not only did the drug, which was given in the form of infusion, act as a heart tonic and as a diuretic, but that it also increased the insensible loss, which, however, did not equal the urine excreted. The action in both respects was somewhat slow in establishing itself, and when the drug was left off things very soon returned, more or less approximately, to their previous condition. The effect, however, was more prolonged in cases where the dropsy was of cardiac than where it was of renal origin. As a rule, it was found that the insensible loss was greater by day than by night. One or two examples may be quoted. A man with weak heart (*cor lassum*) had, before taking adonis, a daily insensible loss of 840 grms.; during the twelve days he took the drug his average loss was 885 grms.; and during the subsequent eight days 831 grms. The mean daily quantities of urine passed in the three periods were 3056, 3247, and 2645 grms. respectively. In another and more serious case, diagnosed as insufficiency of the aortic valves, with arterio-sclerosis and dilatation of the ascending aorta, the effects both on the insensible loss and on the urine were more marked, the average of the former being 802, 1127, and 892 grms. during the three periods respectively, and of the latter 1363, 2202, and 1814 grms. In a typical case of chronic nephritis the mean figures were, for the insensible loss, 1250, 1592, and 1128 grms., and for the urine, 690, 1541, and 1144 grms. for the three periods.

RESORCIN IN GASTRO-ENTERITIS.

While carrying out some observations on arbutin nine years ago in Bonn, Dr. Menche was struck with the resemblance between that substance, hydrochinon, pyrocatechin, and resorcin, and it was suggested to him by Professor Binz to make use of resorcin in the treatment of the gastro-enteritis of children. Since that time he has used resorcin largely as an internal remedy in that and in other more or less allied affections, and has had great reason to be satisfied with it. Its main action appears to be the arrest of fermentation processes in the contents of the gastro-intestinal canal. In this respect it acts similarly to calomel, which the author gives in divided and very frequent doses. Resorcin has, however, the advantage over calomel of not increasing the cardiac weakness. He orders a solution of the strength of three to five parts in the thousand, and directs one or two teaspoonfuls to be given every two hours. This always has the effect of arresting the vomiting and giving the child rest and sleep; the diarrhœa, too, diminishes, and the stools become firmer. When the diarrhœa is very profuse a little tincture of opium is combined with the resorcin. Dr. Menche remarks that, if the contents of the bowels are locked up by opium when they are not sufficiently disinfected, the fermentation products are absorbed and the fever continues, the child convalescing very slowly; where, on the other hand, resorcin is combined with the opium, this does not take place, and a speedy cure results. Of course, in this as in all other methods of treatment, the food must be properly regulated, and wet compresses or warm baths employed. Dr. Menche has not had any opportunity of trying resorcin in Asiatic cholera, but he is able to recommend the use of a 1 per cent. solution in cholera nostras. In various forms of gastritis, too, a similar solution has proved very useful, a few tablespoonful doses sufficing to disinfect the contents of the stomach, and also to quiet excessive and painful gastric movements. In dilatation and in carcinoma of the stomach resorcin is also useful; but Dr. Menche does not agree with other observers in recommending it in recent gastric ulcer. He has known it of service in sea-sickness in one and a half or two grain doses, repeated every two hours before starting and on the first day of the voyage. It should also be taken again at any time during the voyage if sickness comes on. A larger dose will sometimes act as a hypnotic; four to fifteen grains may be given at night in cases of insomnia. Dr. Menche remarks on the importance of prescribing pure resublimed resorcin. If it is combined with acids or alkalies, the mixture must be kept in a dark glass bottle, as the action of light decomposes it.

[1] THE LANCET, 1888, vol. i., p. 1012.

INTRA-VENOUS INFUSION OF CHLORIDE OF SODIUM IN HÆMOPTYSIS.

Dr. O. Leichtenstern of Cologne publishes the result of his experience in transfusion and intra-venous infusion of chloride of sodium in hæmoptysis. He criticises the works of Schramm and Maydl on intra-peritoneal transfusion, and describes *in extenso* seven cases of his own, in which the infusion of a solution of chloride of sodium had been eminently successful in counterbalancing a most serious loss of blood. The author calls the intra-venous infusion of this salt a veritable life-preserver.

EUPHORBIA PILULIFERA IN BRONCHIAL AFFECTIONS.

Dr. John Aulde, in a recent number of the *New York Medical Journal*, directs attention to the use of euphorbia pilulifera for the relief of pulmonary and bronchial affections. The drug was first recommended by Mr. Shepherd of Sydney as a useful remedy in bronchitis and asthma, which was corroborated by Drs. Matheson, Tison, and Marsset. The latter investigated its chemical composition and physiological action in the therapeutical laboratory of Dr. Dujardin-Beaumetz, under the direction of Dr. Bardet. The plant (also called snake-weed, cat's-hair, &c.) is found growing in Southern Australia and other tropical and subtropical countries. The virtues of the drug are best extracted by water, and the dried plant may be employed in the form of a decoction. The dose of the fluid extract is twenty or thirty minims every four hours, and of the infusion half an ounce.

BENZOATE OF MERCURY IN SYPHILIS.

M. Cochery, in his inaugural thesis, recommends the use of this preparation of mercury as very efficacious and as being without any inconvenience. It was employed for the first time in Russia by Stoukowenkoff in 1888, and in France by Balzer and Thirloix. It is used as an injection made with chloride of sodium, cocaine, and distilled water, and must be freshly prepared, as a crystalline deposit is soon formed. No gastric or intestinal pains are produced, the salt is rapidly absorbed and eliminated, and the only drawback to its use seems to be that it corrodes the needles easily, and that these when in this condition give rise to sharp pain.

ARMY MEDICAL REPORT FOR 1889.

(FIRST NOTICE.)

THE Army Medical Report for 1889 makes the thirty-first volume of the series of reports, and consists, with its appendices, of 449 closely printed pages. These reports may be said to be divided into two parts: the first intended for the information of Parliament on the vital statistics of the army; the second, consisting of various papers and reports of a scientific and professional character, for the information mainly of medical officers and others interested in the progress of medicine and surgery generally.

It would be obviously impossible to give anything like a comprehensive analysis of all the statistical, sanitary, meteorological, and medical information embodied in these

449 pages, and we shall not attempt to do more than touch upon some of the more salient points, referring such of our readers as are desirous of prosecuting any particular subject of inquiry, or of ascertaining all the facts and figures in regard to the causes and prevalence of any given disease, to the volume itself. In the first place, we may say that the report, as a whole, strikes us as a good one, and certainly above rather than below the average of its predecessors.

The statistical section deals with an average annual strength of 198,448 warrant officers, non-commissioned officers, and men serving at home and abroad in 1889, but is exclusive of certain corps recruited locally in Malta, the West Indies, Ceylon, and Hong-Kong. The admissions into hospital in this force were 199,823 and the deaths 1831. If we add 1267 detached men to this strength, we get a total of 199,715; and the rates are, for admissions into hospital, 1006·9, and for deaths 9·17, per 1000 of the average annual strength. The death-rate per 1000 of the troops serving in the United Kingdom in 1889 was 4·57. It may be asked, what indications do these figures afford as to our progress in improving the sanitary condition of the British Army since the report of the Royal Commission in 1858. The annual rate of mortality in men of all ages in the army serving at home in 1858 was above 17 per 1000 of strength. At the same time, the death-rate among the civil population of the army ages for town and country was 9·2, and for country alone 7·7 per 1000. If the army at home had been as healthy as the population from which it was drawn, soldiers would have died then at half the rate they did. The result of the comparison of 1885 with 1889 is consequently eminently satisfactory. The change in all that relates to the hygiene and wellbeing of the British soldier since the time of Lord Herbert's Commission is enormous, and must be recognised by anyone who regards his present environment with what it was thirty years ago. Of course it is to be borne in mind that for a considerable portion of this time the limited service system has been in force and has had its effect; the age of the army, its constitution, and conditions of service have undergone a radical change; but the improvement that has taken place could not be attributed to this cause alone by anyone acquainted with the facts.

Taking the statistics of the three divisions of the United Kingdom separately, and comparing the results with those of the previous year, there is in England a decrease of 20·8 per 1000 in the ratio of admission, one of 1·11 in the ratio of mortality, and one of 4·13 in that of constantly sick. In Scotland the admission rate was slightly increased, but the death-rate is 1·66 less, and the rate of constant inefficiency from sickness less also than the corresponding ratios of the preceding year (1888). In Ireland there was an increase in the admission rate and a slight increase in the constantly sick rate, but a decrease of ·75 in the mortality rate of 1889 as compared with the previous year. For the whole kingdom the ratios in 1889 compare favourably in all respects with those of the preceding year. The total loss by death and final discharge from the service on account of medical unfitness amounted to 2089 men, equal to a ratio of 20·46 per 1000 of strength, nearly 1 per 1000 less than the corresponding ratio of the preceding year.

As regards enteric fever, that disease appeared in thirty-five stations, and more or less in each military district in the kingdom, except the Channel Islands. In Dublin there were 63 cases and 8 deaths, and 32 of this number were admitted from the Royal Barracks, 7 from the camp at Phœnix Park, 6 from Ship-street Barracks, and 5 from Richmond Barracks, in addition to cases from several other barracks also. As regards the prevalence of venereal diseases, the results, as indicated by the admission and constantly sick rates in 1889, are, speaking generally, favourable as compared with those of the preceding year, and below the average ratios for the preceding five years.

There is a melancholy sort of interest attached to the prevalence of suicide in the army. The number in the United Kingdom was 17, as compared with 18 in the previous year, and with 20·6, the average number for the preceding five years. As regards the subject of invaliding and the classification of disease—causes which led to it, and those of the relative sickness, invaliding, and mortality in different arms of the service and various corps stationed in the United Kingdom, as compared with one another—these are all set forth, as usual, in the tables and text of the report under review.

Touching the health of officers serving in the United Kingdom, we may remark that in an average strength of 3937 there were 1153 attacks of illness and 20 deaths. The ratio of sickness was therefore 292·9, and that of mortality 5·08 per 1000.

Among the married women, with an average strength of 10,862, the ratio of sickness was 343·5, and that of mortality 5·62 per 1000; and, in an average strength of children of 21,574, the sick-rate was 497·4, and that of mortality 21·60 per 1000—somewhat higher ratios than those of the previous year.

Out of a total of 31,455 recruits found fit for the service in 1889, 946 per 1000 had marks of vaccination, 23 marks of small-pox, and 31 had neither marks of vaccination nor of small-pox. Touching small-pox, it may be remarked, *en passant*, that this disease appears to be extremely prevalent in Egypt.

A few words about the recruiting for the army in 1889, when 53,904 recruits were medically inspected, of whom 31,455 were found fit for the service, equal to a ratio of 583·54 per 1000, and 22,449 were rejected, being in the ratio of 416·46 per 1000. Rather more than half the rejections, as in the preceding year, were caused by defective development, the men not coming up to the regulations either in height, weight, or chest measurement.

THE BRITISH ASSOCIATION.

AT the meeting of the British Association at Cardiff, which commenced its sittings on Wednesday, the 19th inst., not many subjects of strictly medical interest were brought forward.

In the Section of Anthropology Professor G. HARTWELL JONES read a paper on the Barbaric Element in Ancient Greece and Italy. He alleged that their primitive culture was on a level of that of many savage races of the present time, and that the civilisation of Aryan Europe as a whole begins with contact with the East.

In a paper by Mr. J. E. BUDGETT MEAKIN, who was for some years acting editor of the *Times of Morocco*, an interesting account of the Morocco Berbers was given. They occupy the mountain fastness of the whole of the northern coast of Africa. They are a hardy people, and retain their racial characteristics, language, and customs in a comparative state of purity. The Berbers are essentially warlike, and are proud of their bravery and independence; cowardice is to them a heinous crime. In most other points each tribe differs from its neighbour. No description entirely applies to more than one district, though much will be common to many. Some are religious, others indifferent; some are steeped in ignorance, while in others even the women learn to read. Dress and food differ everywhere remarkably, as also do minor social customs. A pall of gross superstition nevertheless casts its gloom over all alike. The physical features of the Berbers are, on the whole, good. They are strong and wiry, with much more energy than the Arab, or the mingled race of the plains. As a rule they are well knit, and many have fine, noble figures. Their countenances are often striking, and their looks keen and full of intelligence. Their hospitality, if not so profuse as that of the Arab, is sufficiently extensive, and regular systems for the entertainment of travellers are in force. Monogamy is more common than polygamy. Drunkenness prevails in some districts, but the use of strong drink at all is looked upon as a vice. Marriage customs are peculiar. In some places the women are practically sold by auction on the market once a year, and may be divorced by being brought back there on the anniversary. Intermarriage among the tribes is permissible, but not general. The Mahomedan laws as to the bar of relationship hold good throughout. Punishments are not, as a rule, severe, though great suffering is often inflicted upon the victims of powerful members of the community by imprisonment in dungeons and by the bastinado. Criminals are subject to the *lex talionis*, which, as the source of the vendetta, leads to much bloodshed and loss of life.

Dr. J. G. GARSON delivered an interesting address upon some human remains found in barrows in Yorkshire. He dealt principally with a round barrow in which skeletons with very long skulls had been found. These skulls were very much longer and narrower than heads of the existing inhabitants of this country. The average height of the

persons who were in the barrow referred to was a little over 5 ft. 3 in. The discovery of flint and the absence of iron instruments showed that the burial took place before the use of metals.

At the second evening discourse, Professor RÜCKER delivered a valuable communication on Electrical Stress, in doing which he followed out one of the ideas of Faraday, and showed that the idea of mapping out the space round an electrified body or magnetised body by means of "lines of force" has proved to be a rigid description of a physical fact of profound importance. Professor Rücker pointed out that in studies such as these we are passing from the investigation of the properties of ordinary matter to those of the ether, which may perhaps be the material of which matter is composed, and which is certainly something of a more subtle and fundamental kind. Its existence is now proved beyond the possibility of doubt. We may some day be able to control and use it, as we now control and use steam. If this is so, the centenary of Faraday's birth will not be the last festival held in his honour, and the generations which reap the harvest which earlier students of the science of electricity have sown will not forget the name of Dr. Kerr (Glasgow) as that of the physicist who completed in the laboratory of a training college a chain of evidence of which Faraday and Maxwell had forged the first links.

In the Section of Biology the attendance was rather small. The business opened with the reading of a paper by Mr. E. J. Lowe on Hybrid Ferns and Crossed Varieties, a large number of specimens showing "parents, children, and grandchildren" being displayed immediately in front of the platform. Professor GILSON gave a short account of certain new facts in the Anatomy of Leeches. Other papers of a technical character were also read.

Dr. S. A. K. STRAHAN read a paper on Instinctive Criminality. He said: "It is well known to the pathologist that when degeneration attacks the system its ravages are never confined to any one tissue or organ, and to this rule the instinctive criminal is no exception. He is a moral imbecile. He lacks the moral sense, as the idiot lacks the intellectual, and in the one case, as in the other, the whole economy is more or less imperfect. In the idiot, which is the lowest form of human development consistent with a continuance of life, we find the intellectual want associated with physical deformity and moral perversion, and in the criminal we have the moral decay accompanied in the majority of cases by physical degenerations and deformities, together with intellectual weakness, epilepsy, and all kinds of neurotic conditions. The criminal is very closely related to the insane, especially the congenital insane, and personally he bears a strong family likeness to his near relative the idiot. In the criminal we find small, over-large, and ill-shapen heads, paralyses, squints, asymmetrical faces, deformed, shrunken, ill-developed bodies, abnormal conditions of the genital organs, large heavy jaws, outstanding ears, and a restless, animal-like, or brutal expression, all of which are common characters amongst the inmates of our idiot and imbecile asylums; and as there is no beauty to be found among the inmates of such asylums, neither is there any to be discovered in our prisons, proving how well-founded is that instinctive feeling of repulsion excited by the sight of the ill-favoured and deformed." Concluding his paper, he said: "When we remember that the annual cost of criminal justice as at present administered reaches, as Mr. Morrison has shown, the magnificent total of seven and a half millions sterling, without reckoning anything for the large loss of property entailed upon the public by the depredations of the criminals, we get some idea of the capital we have to work upon. I have not the slightest doubt that within ten years of the establishment of the new system this vast expenditure might be reduced by a half. Once properly established, such penitentiaries as are here suggested should be almost self-supporting. At present in our county lunatic asylums, where very few of the inmates are capable of labour of any kind, and where they are fed, clothed, lodged, and amused in a style far above that required for prisoners in a penitentiary, the average cost of maintenance is only 8*s.* 10½*d.* weekly, which, being reduced by 3½*d.* by the labour of the few inmates who work, makes the actual weekly rate of maintenance 8*s.* 7½*d.* Surely it would only be a small number of the inmates of our prison homes who could not be induced, under the proposed system, to earn close upon this sum weekly; and every prisoner who would earn this sum would perform the novel feat of not only earning an honest living, but of doing something for the good of the commonwealth. As to the preventive means which should work hand in hand with this system of prolonged detention of those who have already overstepped the mark, we must look for our best results from the elevation, so far as that is possible, of the poorer classes in our cities and large centres of population. It is now admitted on all hands that the poor toiler in our great industrial centres deteriorates with every generation, and, if not revitalised by fresh blood, becomes extinct in three or four. When we remember that instinctive crime is in most instances but one phase of this gradual degeneration, as is proved by the fact that the great mass of our criminal class is recruited from the residuum of our large cities, we must in justice treat the instinctive criminal as kindly and humanely as we do his relatives in whom the decay has attacked the intellectual or physical organisation. The crippled in mind and body we succour without question as to cause or origin. Why should the crippled in moral nature be the only one of all humanity to be scoffed at and punished because of his affliction?"

In the Economic Section, Mr. G. W. HAMBLETON read a paper on the Cure of Consumption in its economic aspects. He pointed out that consumption was a disease of civilisation produced by causes which reduced the standard breathing capacity below a certain level. To prevent this disease they must see that the body was used to the extent its strength demanded, and that the work which it had to perform was carried on under conditions favourable to the body. It was also desirable so to arrange habits and surroundings that their tendency as a whole should be to develop the lungs. Close and badly ventilated or heated rooms should be avoided; occupations which involved stooping and cramped positions; corsets; tight-fitting clothes; "nipping" should also be prohibited; as much time as possible should be spent in active exercise in the open air; bedrooms should be well ventilated; wool should be worn next the skin; the body should be held erect; deep inspirations in breathing should be taken through the nose; and the cultivation of all kinds of athletic exercise should be encouraged. But, above all, he considered a great deal depended on prompt and early treatment of the victims of consumption.

The next meeting of the Association will be held at Nottingham.

MEETING OF THE BRITISH DENTAL ASSOCIATION.

THE annual meeting of the British Dental Association, held this year in London, produced so many papers and subjects of interest that only a cursory notice in our columns is here possible. With Mr. Smith Turner in the presidential chair, it was certain that many urgent questions—which had, moreover, to be vigorously tackled—would receive attention. In his address he referred to the possibility of the genus Homo becoming edentulous, but did not plead "urgency" on this point. The degeneration of the teeth of the present time is a serious matter, and Mr. Smith Turner's remarks on the subject ought to be widely known. He says: "Plainly I think the duties of maternity exist long before the birth of a child. Again, I do not say that a child may not flourish on other food than that originally intended for it by Nature; but of this I am sure, and so are you, and so is every medical practitioner, that the teeth of drugged children suffer terribly, and that, whether the mother's deputy be a wet nurse or a feeding-bottle, a great facility is offered to those who are unscrupulous enough to disregard the future welfare of the child in taking their own ease."

The representative boards of the British Dental Association have at all times worked so hard in the interest of the dental profession that it is pleasing to note that the present one is not less energetic than its predecessors. A resolution to render any person keeping a shop, and carrying on trade therein in conjunction with dentistry, not eligible for admission to the British Dental Association, was carried easily, whereas the motion "that after a certain time no person should be elected a member unless he had a qualification registrable by the General Medical Council" was rejected. Eleven years have now passed during which unqualified men

have been given the privilege of admission to the Society, and now that the General Medical Council have ceased to register unqualified practitioners, it seems only logical that the British Dental Association should follow suit. Mr. Cunningham's motion with reference to the advisability of appointing dental surgeons to the recruiting depôts for the navy gave rise to some controversy. Mr. J. M. Ackland, in a paper on the Higher Dental Diploma Question, expressed his belief that the L.D.S. was second to no dental diploma in the world, and should always be the *necessary* qualification. If the student wishes another, it should be a medical one. This second dental diploma would, said the author, sever more than ever the dental from the medical; in fact, would be a distinctly retrograde step. The report of the School Committee, derived from the examination of over 4000 children, mostly in industrial schools, reformatories, and training ships, showed some startling figures with reference to the prevalence of dental caries. From the nature of the investigations these children belong to the lower class, but a comparatively very small number of cases examined in a middle-class school gave even worse results. In infants—not the legal definition, for the committee defined them to be those who had not cut a permanent tooth—the figures showed that a considerable number of teeth are decayed as early as the second or third year, that the number of decayed teeth increases as age advances, and that the proportion of those free from caries is about 26 per cent. only. Perfect dentures of permanent teeth, observations of which were taken between ten and twelve years of age, gave 109 per 1000. Under the heading of retarded eruptions of permanent and undue retention of deciduous teeth there was over 11 per cent., and the report adds that this class of cases serves clearly to explain how a large number of irregularities of the permanent teeth occur which are obviously of a preventable nature, and irregularities being a recognised predisposing cause of decay, the importance of this table is considerable. Honeycombed teeth existed in about 5 per cent., and hereditary syphilitic teeth, the peg-shaped teeth of Hutchinson, in 0·5 per cent. One excellent and direct effect of the present investigation has been the introduction of tooth-brushes, which in the case of most schools were formerly conspicuous by their absence.

"Uneasy lies the head that wears a crown" may be true of kings, but of humbler mortals, many of whom aspire to golden crowns, it is only during the fitting or adjustment, if at all, that the head lies uneasy. Mr. Claude Rogers and Mr. Hern, who gave clinics on this most conservative (using the term in its philological sense) and yet most radical treatment, showed how, by means of dexterity, skill, and a little cocaine, this valuable operation may be performed. Messrs. Ackory, Baldwin, Stour, Bennett, Colyer, Brunton, Harding, and Woodhouse demonstrated gold fillings mostly in combination with other materials. Gold alone is not now *facile princeps* from the dental surgeon's point of view. Messrs. Cunningham and Rose showed separately methods of working continuous gum, which is a silicous preparation made to resemble gum tissue, for artificial teeth, this substance having been heretofore but little used on account of its high point of fusibility. Mr. Kirby, who has long been identified with electrical appliances for use in dental surgery, demonstrated his latest modifications and improvements. Mr. Weiss demonstrated glass inlays, Mr. Gartrell bridge-work, and Mr. Coffin gutta-percha, for taking impressions of the mouth. The microscopical department, which was an especial feature of the Congress, and a very popular one, was due to the exertions of Messrs. Campion, Caush, Mummery, Underwood, Charters White, and Sims Woodhead. The following papers were read: Mr. R. Lennox on Fusible Metal; Mr. Macleod on Dall's Method of preventing Anterior and Lateral Movements in Artificial Dentures in Edentulous Cases; Mr. Fisher on the Compulsory Attention of the Teeth in School Children and Army and Navy Recruits; Mr. Pedley on Observations on the Teeth of Hospital Children; Mr. Mummery on Methods of Research in Bacteriology; Mr. Pearsall on Oblique Rooted Teeth; Dr. Dudley Buxton on the Choice of Anæsthetics in Dental Surgery; Dr. Graves on a Case of Tuberculosis of the Palate treated by Koch's method (patient shown). The Examination Hall of the Royal Colleges of Physicians and Surgeons, kindly placed at the service of the British Dental Association, was but the vestibule through which the visitors passed to a most cordial reception from the London members. Sir John Tomes' garden party, the conversazione at South Kensington, the annual dinner and other festivities, were so well attended as to allow of no doubt of their appreciation.

IRISH LUNATIC ASYLUMS.

THE fortieth report on the district, criminal, and private lunatic asylums in Ireland has now been issued. On Jan. 1st last there were in Ireland 16,251 persons of unsound mind under care, being an increase of 225 on the number at the commencement of the year 1890. Since 1880 the number of the insane in district asylums has increased from 8667 to 11,488, and in the workhouses from 3513 to 3961, and the total number from 12,982 to 16,251, little or no change having taken place in the number of inmates of private asylums, or in the criminal asylum at Dundrum. There has been an increase in the insane under care from 249 per 100,000 of the population [in 1880 to 346 per 100,000 in 1890. The admissions into district asylums during the past year were 3095, of which 2451 were first admissions, and in 644 cases the patients had been previously under treatment. The larger proportion of these admissions take place under the Dangerous Lunatic Act, 30 and 31 Vict., cap. 118, sec. 10, by which the lunatic practically becomes a criminal, for whose detention no payment can be enforced. Thus for last year 2165 persons were committed as dangerous lunatics out of a total number of 3095, or about 70 per cent., while in Scotland during 1889 only five persons, or something under 0·2 per cent., were so admitted. The inspectors recommend that in any lunacy law to be introduced for Ireland a new form of procedure for the admission of the insane to asylums, for rich and poor alike, should be introduced, somewhat in accordance with the form under the present English Lunacy Act. Provision should also be made for the conveyance of the lunatic to the asylum, and, in the case of paupers, for the payment of the medical officer's fees. There were 1255 patients discharged recovered from district asylums, giving a percentage of 40·5 on the admissions, while the total number discharged amounted to 594. The deaths in these asylums were last year 936, giving a death-rate of 8·2 on the daily average number resident. Of the 936 deaths, 237 were due to cerebral and spinal affections, 412 to thoracic diseases (which included 255 from phthisis), and 94 to abdominal affections; 5 deaths occurred from suicide, and 4 from accidents. The inspectors regret that post-mortem examinations in asylums are not made the rule, and urge their importance, as they tend to protect the insane, safeguard the medical staff, and advance our knowledge of brain disease. All the district asylums throughout Ireland are more or less overcrowded. The condition of private asylums, with some few exceptions, is not regarded as altogether satisfactory, and the inspectors call attention to the great necessity existing in so poor a country as Ireland for a measure enabling public funds to be provided for the establishment of accommodation for the insane paying low rates of board, in which no pecuniary interest would accrue to any private individual; and they suggest that, in any future lunacy legislation in connexion with public asylums, provision for the erection and establishment of separate wards for the reception of this class of the insane should be introduced. At present a number of patients contributing towards their maintenance are to be found in the several district asylums, but they may be said to some extent to occupy space and receive benefits which were primarily intended only for the insane poor. It may be added that many of the provisions of the Irish Private Lunatic Asylums Act are obsolete, and that much more stringent regulations with regard to this class of the insane are desirable. The pauper lunatics and imbeciles resident in workhouses numbered 3961, or nearly one-fourth of the total number under treatment. In almost all the workhouses there is an absence of proper supervision, the only attendance provided being that of pauper inmates, often very ignorant and careless, to whom are entrusted in many cases the appliances of mechanical restraint which they often use because the patient is troublesome or noisy, or because the imperfect nature of the accommodation will not admit of a better mode of treatment. Further,

in some workhouses the insane inmates are found without occupation or amusement, living, eating, and sleeping in the same rooms with no means of artificial heating, and often with flagged floors. The cold and dark "idiot cells" have been got rid of in most parts of Ireland, but there are still workhouses where cells are used as accommodation for the insane, places thoroughly unsuitable for the reception of lunatics. The total expenditure in district asylums for the past year amounted to £257,031 3*s.* 5*d.*, or an increase of £21,570 5*s.* 8*d.* as compared with the previous year. The average cost per head on the total expenditure was £22 7*s.* 8*d.*

MEDICAL DEFENCE UNION, LIMITED.

FORMATION OF A NORTH OF ENGLAND BRANCH.

FOLLOWING upon the successful proceedings on behalf of a member in Sunderland, a meeting of the medical profession of the counties of Northumberland, Durham, Cumberland, and Westmoreland was held, by the kind permission of the Council of the College, in the Council-room of the College of Medicine, Newcastle-upon-Tyne, on Aug. 19th. Professor Philipson occupied the chair, and there was a large influential representative attendance of medical men. Letters of apology and cordial approval were read from many well-known practitioners in the north. The objects, organisation, development, and working of the Union were explained by Dr. Philipson, Dr. Arnison, and Dr. Leslie Phillips, the general secretary.

Resolutions were adopted recognising the necessity for an organisation having for its object the defence of individual members of the profession against unjust charges, expressing the belief that the Medical Defence Union, Limited, satisfactorily met this want, and establishing a North of England Branch, covering the area of the four northern counties, with Professor Philipson as President, and Mr. G. E. Williamson as Hon. Secretary. A most influential and representative provisional Council was appointed, with power to add to its number. All information as to membership &c. may be obtained from Dr. Leslie Phillips, 22, Newhall-street, Birmingham.

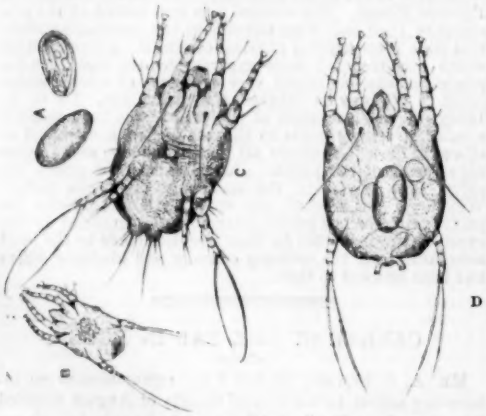
A VISIT TO WEYMOUTH AND PORTLAND.

AMID the arduous labours incumbent upon the assembling of so many large meetings of medical men during the "dog days," which have since the time of Æsculapius been associated with the physician's holiday, a pleasing break was afforded to those medical men who attended the meeting of the British Medical Association at Bournemouth during the earlier part of the present month by a visit to the health-restoring town of Weymouth, and the still more bracing island of Portland. An admirably appointed steamer, conveying 150 passengers, under the immediate supervision of Dr. Childs and Dr. Simpson, sailed from Bournemouth to what has been well named the "Naples of England." The sea breeze, the sunshine, the beautiful scenery of this interesting part of the South Coast, made the three hours' sail seem all too short. Carriages were provided for the guests so as to afford them an opportunity of visiting the town gardens, to which they were conducted by Dr. Lush Dr. Griffin, Dr. Moorhead, Mr. Wilton, and Mr. Browning. The party was then conveyed to the Victoria Jubilee, and handsomely entertained by the medical men of the town. On proceeding to Portland, the quarries were visited, and the geology of the island was lucidly expounded by Dr. Moorhead. After mentioning the various formations which constitute the upper oölite of which the island is composed, he remarked that they afforded indisputable evidence that Portland during past ages had experienced more ups and downs than any other island in the world, having been upheaved and submerged at least five times before it attained its present position. Reference was then made to the raised beach which is found near the Bill at a height of twenty feet above the present sea level. A similar beach exists on the south coast of Devon and Cornwall, as well as along the shores of the Baltic and the seaboard of Chili and Peru. The island thus presented a good illustration of a geological phenomenon of world-wide interest and importance. Dr. Moorhead next exhibited some specimens of marine saurians which were found in the Portland strata. These sea monsters were the "great whales" referred to in the first chapter of Genesis as having been created on the fifth day. The fossil flora was then noticed, including Cycadeæ and Coniferæ, which, from their extraordinary luxuriance, had attracted the special attention of geologists throughout the world. The stems of the fossil pine trees exhibited the usual concentric rings, indicative of annual growth. Such rings implied the existence of the seasons, and therefore, as the oölitic period formed part of the fifth day of Creation, confirmed so far the accuracy of the account given in the Book of Genesis, which records that the sun and moon on the fourth day were appointed "for signs and seasons." The trees in the coal measures exhibit no such rings. The fossil Coniferæ found in the quarries were unrivalled for their height and size; and when one looked at the remains of the magnificent forest all around, it was not difficult to recall the past, and to think of the grateful shade enjoyed by the island in remote ages, in contrast with its present treeless condition. An opportunity was afforded for visiting a magnificent fossil tree and many other large fossils characteristic of the island. The visitors then proceeded to the convict establishment, and by the permission of the Home Secretary were shown through the Portland Prison. The medical men who looked at the prisoners in their cells were unanimous in expressing satisfaction with their healthy physical condition—a circumstance which was rendered more apparent by the fact that the prison hospital contained very few cases of disease which could in any way be attributed to prison life. Dr. G. H. Lilley, the medical officer of the prison, who has published a most interesting guide to the isle of Portland, spared no efforts to show the visitors all that was to be seen in that department of the prison. After leaving the prison the party were driven to the station through the island. Weymouth was reached, and after light refreshments the party started on the return journey, highly gratified by the excellent arrangements for their reception made by the local secretaries, and the untiring courtesy and kindness which had been afforded to them.

CANKER OF THE EAR IN DOGS.

MR. A. J. SEWELL, M.R.C.V.S., communicates an interesting article to the *Kennel Gazette* of August entitled "Canker of the Ear." "All those who have had much experience with dogs," he says, "must have frequently noticed that they occasionally show signs of great irritation in the ear by constantly shaking the head, holding it on one side, and rubbing the side of the face along the ground, and now and then scratching the back of the ear with the hind foot; and yet in some cases, on casually examining the ear, there is nothing much to be seen to account for these symptoms. A little dried brown excretion may be noticed; in fact, the ears look just slightly dirty. The conclusion often come to is that if the parts were cleaned the irritation would cease, but such is frequently not the case. If, instead of giving a hurried look into the ear in these cases the parts are well examined and the canal leading into the ear is carefully watched, tiny white specks, oval in shape, and about the size of the eye of an ordinary small sewing needle, will be observed. These are parasites (figured below), and are, in my opinion, the cause of that disease called canker of the ear." Mr. Sewell distinguishes this cause from those others which are well known and from those others affecting the flap of the ear due to eczema. He says: "These parasites, which I have called the 'psoroptes auricularis canis,' are extremely active in their movements, and, if the ear be carefully watched for a few moments, they may be seen running about the skin and also along the hairs in the ear at a fairly rapid rate, considering their minute size; and the irritation which they cause is due in a measure, I believe, to the tickling sensation caused by their movement, and partly the result of their biting. I have had these parasites

under observation for the last twelve months, but it is only just recently that I have been able to get some specimens to examine under the microscope, and these I have had drawn by an artist, and I must say in passing that he has done justice to his work, for the acari, when seen with the microscope, look exactly like the illustrations given herewith. In one specimen of the larval form it will be noticed that the shell or covering has become partly removed, and the legs of the parasite are seen still lying curled round the body. This is exactly how it appeared in the specimen I examined. B is a young acarus not yet fully grown, and from the number of its legs it is probably a female. C is a specimen of the male. There are several distinctive differences between the male and female. In the first place, the former has eight legs, it is smaller, and they are far less numerous, there only being about one male to every twenty females. The female (D) is thicker set, and has only six legs, and in the centre of the trunk is a small oval body which I take to be an egg. In both cases the front legs are provided with suckers, which are somewhat triangular in shape and situated at the point of the toes. In walking the fore-legs are only used, the hind ones not moving, but are dragged along with the body. The psoroptes auricularis carnis does not burrow under the skin (epidermis) like the mange parasites, but lives on the surface, to which it attaches itself by its suckers. To prove this I kept a number placed under a watch-glass upon my arm for a day, and, though they caused slight irritation and raised small points by biting, they did not attempt to burrow. I also



Psoroptes Auricularis Canis, magnified about seventy times. A, Larval forms. B, Young acarus. C, Male. D, Female.

placed a number under a watch-glass upon the body of a hairless dog, and they did not attempt to burrow here, but they were very restless, for they could be seen with a strong magnifying glass to be constantly travelling about, which looked, I thought, as if they did not feel at home in their new situation. They did not seem to have bitten the dog's skin, as after they were removed there was no signs of small blisters or papules; besides, the dog did not seem to take the least notice of them, which would not have been the case if they had punctured the skin, as they did on my arm. Of course, the skin lining the passage into the ear is much thinner and softer, and here, I believe, the mites do bite, and as the result there is an exudation which, I consider, accounts for that brown and somewhat dry discharge so often seen in some ordinary cases of canker. I have never been able to find the acarus anywhere else about the dog but in the ear; in fact, they do not seem to wander outside the canal and crevices formed by the cartilage, not even upon the flap of the ear, either inside or out. They vary in numbers—sometimes one can only find a few, about twenty; in other cases they are present in hundreds, lying in clusters like a heap of fine white powder. I have also frequently found these same parasites in cats' ears, and in some cases they induce rather extraordinary symptoms, the cat being almost unable to walk; in fact, when it attempts to do so, the animal rolls about as if intoxicated, frequently falling over on its side. I have never seen the acarus cause the same symptoms in the dog.

"The treatment and cure of canker of the ear when caused by the psoroptes auricularis canis is a very simple matter, for, by applying some agent which will destroy these acari, the irritation at once ceases. I have found the following lotion to answer the purpose admirably in all cases, both in dogs and cats:—Ft. ung. hydrarg. nit., 1 dr.; ol. amygd., 1 oz.: well mix. It should be applied all over the internal surface of the ear daily with a camel's-hair brush, or a few drops may be poured into the ear. After a week the ear should be syringed out with tepid water and methylated spirits, about one in ten. I have heard it more than once stated by men who have had large experience with dogs, that they believed canker of the ear to be contagious, and no doubt it is, considering that it is due to a parasite which can be easily transferred from one dog's ear to another. There is a somewhat similar acarus called the symbiotes spathiferus, which causes a certain form of mange in the horse, but I I cannot find that this parasite described in the present article has ever been noticed in the dog's ear or mentioned before."

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Accrington Urban District.—A good deal of building is reported to be in progress in Accrington, and care is taken to secure proper construction of drainage, paving, &c. The death-rate during 1890 was 16·6 per 1000 on a population estimated at 40,000; the zymotic rate being 1·2. Under the compulsory notification system, 267 cases of infectious disease were reported; but the sanitary authority does not seem to care much about preventing their spread, for Dr. Milne reports again that nothing is being done in the way of providing the district with an isolation hospital. Small-pox did secure a site, but the attitude of panic having subsided, the matter has been allowed to lie idle. The general sanitary condition of the borough is said to be well maintained, and open midden privies are being steadily abolished. Public abattoirs of excellent description have been provided; the registered lodging-houses are well supervised, and some improvements have been effected as regards back-to-back houses. Some useful tables and diagrams are appended to the report.

Handsworth Urban District.—The general rate of mortality for this district, as judged by the estimated population, remains low—namely, 13·2 per 1000 for 1890. The zymotic rate has also been fairly low, and careful inquiries are made with a view to the removal of conditions favourable to disease, whenever infectious cases come under notice. Dr. Welch gives a retrospect from the statistical point of view, and we must agree with him in his contention that it affords a distinct proof of the beneficial results of the sanitary work which has been in progress in the district.

Wimbledon Urban District.—Mr. Pocklington admits that at the date of his report his calculation as to a death-rate of 10·6 per 1000 could only be regarded as an estimate, but the district has been free from epidemics and the general health good during the past year. In connexion with certain cases of enteric fever he introduces a useful plate showing how water-supplies for closets may be dealt with under the circumstances in question. His inquiries have also led to an abatement of overcrowding in one of the elementary schools, and a great many minor sanitary defects have been dealt with.

Toxteth Park Urban District.—In discussing the uses of the system of compulsory notification, Dr. Walter Steeves states that it has added to the knowledge of the sanitary authority not only as regards the existence of infectious disease in their district, but it has done so by pointing to the precise locality in question, and the information has been received promptly. This class of information has enabled the authority on many occasions to take early action as regards school-attendances, bad drainage, water-supply, milk-services, &c., by way of checking farther infection. In all, 141 cases were heard of. Of these, 112 were scarlet fever, but only four of these seem to have been admitted to hospital. This number is small, even when the somewhat excellent class of dwelling accommodation available in

Toxteth Park is remembered. The general death-rate for 1890 was calculated as 12·3, and the zymotic rate as 1·8 per 1000.

Hastings Urban District.—The corrected death-rate for Hastings during 1890 was estimated by Dr. A. Scarlyn Wilson as 12·5 per 1000, and the zymotic rate as 0·94. A curious instance of the admission of a patient suffering from alleged small-pox into the borough sanatorium is referred to. No official of the authority saw the patient, who remained there ten days, but who turned out not to have small-pox at all. Had the hospital contained other cases of small-pox, some medical officer responsible to the authority for the general management of the hospital might possibly have seen the patient at the first. Certainly some such arrangement should be in force. The sanatorium does good work; seventy-two patients were admitted, and the spread of infection was thus prevented. The future requirements of the borough as to water-supply call for earnest consideration, but the summary of work done during the past year affords reason to believe that, though it may be costly, this important work will be attended to.

Cardiff Rural District.—Dr. R. Prichard gives a detailed account of the sanitary work carried out in the various portions of this district, and he explains that, on the appointment of an additional sanitary inspector, a searching examination of every dwelling-house is in each case commenced. The various diseases are referred to; and, in connexion with the subject of notification, the authority are reminded that they will have to provide means of isolation as a natural sequence to their adopting a measure for acquiring information as to diseases the spread of which should be prevented. The general death-rate for 1890 is estimated at 14·4, and the zymotic rate at 0·7, per 1000 living.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In twenty-eight of the largest English towns 5485 births and 3252 deaths were registered during the week ending Aug. 22nd. The annual rate of mortality in these towns, which had declined in the preceding three weeks from 19·6 to 18·8 per 1000, further fell to 18·0 last week. The rate was 17·8 in London and 18·2 in the twenty-seven provincial towns. During the past seven weeks of the current quarter the death-rate in the twenty-eight towns averaged 18·2 per 1000, and was considerably below the mean rate in the corresponding periods of the ten years 1881–90. The lowest rates in these towns last week were 8·8 in Halifax, 9·9 in Brighton, 13·4 in Norwich, and 14·5 in Wolverhampton; the highest rates were 22·4 in Liverpool, 22·6 in Salford, 24·2 in Preston, and 26·6 in Sunderland. The deaths referred to the principal zymotic diseases, which had declined in the preceding three weeks from 653 to 600, further fell last week to 564; they included 349 from diarrhœa, 76 from whooping-cough, 42 from measles, 34 from diphtheria, 32 from "fever" (principally enteric), 31 from scarlet fever, and not one from small-pox. The lowest death-rates from these diseases were recorded in Halifax, Oldham, Norwich, and Bristol; and the highest in Blackburn, Sunderland, Leicester, and Preston. The greatest mortality from measles occurred in Sunderland; from scarlet fever and from whooping-cough in Huddersfield; from "fever" in Birkenhead; and from diarrhœa in Wolverhampton, Sunderland, London, Sheffield, Blackburn, Leeds, Hull, Leicester, and Preston. The 34 fatal cases of diphtheria included 24 in London and 2 in Liverpool. No death from small-pox was registered in any of the twenty-eight towns; and no small-pox patients were under treatment either in the Metropolitan Asylum Hospitals or in the Highgate Small-pox Hospital on Saturday last. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 922, against numbers increasing from 857 to 924 at the end of the preceding six weeks; the patients admitted during the week were 104, against 74 and 104 in the previous two weeks. The deaths referred to diseases of the respiratory organs in London, which had been 191 and 185 in the preceding two weeks, further declined to 157 last week, and were 26 below the average. The causes of 59, or 1·8 per cent., of the deaths in the twenty-eight towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Leicester, Nottingham, Newcastle-upon-Tyne, and in nine other smaller towns; the largest proportions of uncertified deaths were recorded in Salford, Birmingham, Sheffield, and Birkenhead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 15·9 and 17·2 per 1000 in the preceding two weeks, rose again to 18·7 during the week ending Aug. 22nd, and exceeded by 0·7 the mean rate that prevailed during the same period in the twenty-eight large English towns. The rates in the eight Scotch towns ranged from 2·1 in Aberdeen and 2·4 in Edinburgh, to 3·4 in Perth and Glasgow, and 4·7 in Paisley. The 482 deaths in these towns showed an increase of 40 upon the number in the preceding week, and included 39 which were referred to diarrhœa, 17 to whooping-cough, 8 to scarlet fever, 7 to measles, 5 to "fever," 2 to diphtheria, and not one to small-pox. In all, 78 deaths resulted from these principal zymotic diseases, against 50 and 68 in the preceding two weeks. These 78 deaths were equal to an annual rate of 3·0 per 1000, which was slightly above the mean rate from the same diseases in the twenty-eight English towns. The fatal cases of diarrhœa, which had been 19 and 41 in the preceding two weeks, declined again last week to 39, of which 17 occurred in Glasgow and 7 in Dundee. The 17 deaths from whooping-cough exceeded by 9 the number in the previous weeks, and included 9 in Glasgow and 3 in Paisley. The fatal cases of scarlet fever, which had increased from 3 to 6 in the preceding three weeks, further rose last week to 8, of which 3 occurred in Glasgow, 2 in Edinburgh, and 2 in Aberdeen. Of the 7 deaths referred to measles, 5 were recorded in Glasgow and 2 in Edinburgh; and the 5 fatal cases of "fever" included 3 in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had declined in the preceding four weeks from 80 to 54, rose again last week to 63, but were 18 below the number in the corresponding week of last year. The causes of 58, or more than 12 per cent., of the deaths in the eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 16·5 and 22·8 per 1000 in the preceding two weeks, declined again to 20·6 during the week ending Aug. 22nd. During the past seven weeks of the current quarter the death-rate in the city averaged 19·2 per 1000, the rate for the same period being 18·7 in London and 15·6 in Edinburgh. The 141 deaths in Dublin during the week under notice showed a decline of 15 from the number in the preceding week, and included 9 which were referred to diarrhœa, 1 to scarlet fever, 1 to whooping-cough, and not one either to small-pox, measles, diphtheria, or "fever." In all, 11 deaths resulted from these principal zymotic diseases, equal to an annual rate of 1·6 per 1000, the zymotic death-rate during the same period being 3·4 in London and 2·4 in Edinburgh. The fatal cases of diarrhœa, which had been 1 and 8 in the preceding two weeks, further increased to 9 last week. Only 1 death was referred to whooping-cough, against numbers ranging from 3 to 6 in the previous eight weeks. The fatal case of scarlet fever was the first recorded in the city since February last. The 141 deaths in Dublin included 27 of infants under one year of age, and 29 of persons aged upwards of sixty years; the deaths of infants showed a further increase upon recent weekly numbers, while those of elderly persons showed a decline. Three inquest cases and 2 deaths from violence were registered; and 46, or nearly a third, of the deaths occurred in public institutions. The causes of 18, or nearly 13 per cent., of the deaths in the city were not certified.

THE SERVICES.

ARMY MEDICAL STAFF.—Surgeon-Captain Robt. Thos. McGeagh, M.D., retires from the Service, receiving a gratuity (dated Aug. 26th, 1891).

INDIAN MEDICAL SERVICE.—*Bengal:* To be Brigade Surgeons: Surgeons-Major Robert Jameson, M.D. (date 1 March 1st, 1891); William Pleace Warburton, M.D. (date 1 April 1st, 1891); Edward Alfred Birch (dated April 3rd,

1891).—*Madras:* Surgeon-Major Patrick Richard Martin, M.D., to be Brigade Surgeon (dated May 7th, 1891.)—*Bombay:* Brigade Surgeon Henry Cook, M.D, to be Deputy Surgeon-General (dated Sept. 18th, 1890).—The Queen has also approved of the date of restoration to the Effective List of Surgeon Edward Ronald Da Costa, Madras Medical Establishment, being altered to April 5th, 1891.

NAVAL MEDICAL SERVICE.—The following appointments have been made at the Admiralty:—Surgeons: William F. Prynn, to the *Penelope* (dated Aug. 20th, 1891), and Frederick J. Lilly, to the *Blanche* (dated Aug. 24th, 1891).

VOLUNTEER CORPS.—*Rifle:* 2nd (Prince of Wales's) Volunteer Battalion, the Devonshire Regiment: Edward George Dutton, Gent., to be Acting Surgeon (dated Aug. 22nd, 1891)—1st Volunteer Battalion, the Suffolk Regiment: Acting Surgeon G. Jones resigns his appointment (dated Aug. 22nd, 1891).—1st Volunteer Battalion, the Hampshire Regiment: Charles Frere Webb, M.D., to be Acting Surgeon; Surgeon and Surgeon-Major (ranking as Lieutenant Colonel) S. Lawrence, M.D., resigns his commission; also is permitted to retain his rank, and to continue to wear the uniform of the Battalion on his retirement (both dated Aug. 22nd, 1891).—2nd Volunteer Battalion, the Oxfordshire Light Infantry: Surgeon H. P. Mallam resigns his commission; Julius Ottaway Sankey, Gent., to be Acting Surgeon (both dated Aug. 22nd, 1891).

Correspondence.

"Audi alteram partem."

"PARAFFIN IN DIPHTHERIA."

To the Editors of THE LANCET.

SIRS,—I should be obliged if you would allow me space in THE LANCET to bring before the members of the medical profession the value of paraffin as a local application in diphtheria. As chairman of the Gloucester urban sanitary authority, I was sent as a delegate to the International Congress by the city Council, but, owing to the great pressure on the time of the Sections, was only able to mention the use of paraffin in diphtheria when supporting the vote of thanks to Dr. Seaton for his admirable paper in Section I. on Aug. 12th, and consequently no official notice of my remarks has been published. At the close of the discussion I was asked by many foreign and English delegates to give a detailed account of the treatment. We have had an outbreak of diphtheria in this city since last April, and although the disease has been greatly checked by the prompt action of the sanitary authority in closing one of the elementary schools, yet there have been some hundred cases. I have treated thirty cases (children and adults) with paraffin, and have had the satisfaction of seeing every one recover. My plan is to ask for the ordinary paraffin used in lamps, and, having scraped off the diphtheritic patch, to apply the paraffin every hour to the throat (internally) with a large camel's-hair brush. As a rule, the throat gets well in from twenty-four to forty-eight hours, and with improvement in the throat the paraffin is applied less frequently, but I continue its use for two or three days after the complete disappearance of the patches. In three very severe cases I found that, as the diphtheria gradually disappeared, tonsillitis supervened, which I treated in the ordinary way. I find from experience that it does not do to allow the paraffin to stand in an open vessel; it seems not to have the same curative effect if exposed long to the air. It should be poured out from the can each time it is used. I can speak definitely as to the therapeutic effects, but am unable to state what the chemical action of paraffin on the diphtheritic membrane is; I can only suppose that the hydrocarbons in the liquid exert some powerful influence on the membrane. I cannot see why, as the local action of paraffin is so beneficial in these cases, it should not exert an antiseptic influence if vaporised and mingled with the air in a room occupied by a diphtheria patient.

In conclusion, I would say that I have ordered a generous diet for the patient and a mixture containing tinct. ferri perchlor. and potass chlor., to be taken every three or four hours, and that in some cases where, owing to the lateness of the hour, there was a difficulty in obtaining the medicine, the throat having been brushed diligently with paraffin, there was a decided improvement in the morning before any of the mixture had been taken, showing that the improvement was due solely to the paraffin treatment.

I am, Sirs, yours truly,

A. M. SYDNEY-TURNER, J.P., M.R.C.S.,
Surgeon to the County Infirmary, Consulting Surgeon to the Children's Hospital.

Gloucester, Aug. 17th, 1891.

HAMMER TOE AND CROOKED FINGER.

To the Editors of THE LANCET.

SIRS,—The lectures of Mr. Anderson and the paper of Mr. Adams, recently published in the columns of THE LANCET, are full of instructive information on hammer toe and crooked finger. The writers are not quite in accord in their descriptions of the two conditions, the nomenclature being one point on which they differ. Mr. Anderson keeps the old term, "hammer toe," and employs a new one, "hammer finger." Mr. Adams suggests "dropped toe" and "dropped finger" for these distortions respectively. Undoubtedly the latter terms are to be preferred, because they more accurately describe the nature of the distortions; but, although "hammer toe" is an objectionable term, it is so difficult to get rid of a word that has become established by use that it may be advisable to retain it in this instance. There is, however, no reason for applying the title "hammer" to the distorted finger; for this I have been in the habit of employing the prefix "crooked,"[1] and would suggest its adoption as being a fairly suitable one for describing the complaint. To the allied nature of these two deformities of the toe and finger I may, I believe, lay claim to have been the first to direct attention, and for some years I have been aware of the occurrence of the two distortions in different members of the same family. An example of hereditary transmission that came under my notice gave cases arising through three generations. A maiden lady, aged sixty years, on whom I operated, had hammer toes of both feet, one of the daughters of her sister had crooked fingers, and two children of another daughter of the same sister possessed hammer toes. I could not trace the history of the distortions occurring earlier in the family, but the father of the lady first mentioned used to grumble about one of his toes, though whether this was a hammer toe or some other trouble there was not sufficient testimony to prove. A piece of evidence, which further illustrates the close relationship between these minor deformities, has also come before me, and is worth recording. The condition of crooked finger with contraction of the palmar fascia and distortion of the fingers, which is met with at about the age of fifteen and upwards, has been described by Mr. Adams as a late stage of the ordinary condition of crooked finger. The existence of contraction of the plantar fascia with hammer toe, which simulates the above condition, has not, I believe, been instanced by any authority. Of this complication I have met with several well-defined cases; in one case, a young gentleman aged thirteen years, there was distortion of both second toes, with contraction of plantar fascia in both feet to an extent which produced well-marked talipes arcuatus. The contracted bands of fascia were divided at the same time that the phalangeal articulations were operated on, and the case did well. An unusual experience in this case may be noticed, in passing—that the lad's mother, who also suffered from severe hammer toe of one foot, was subjected to treatment at the same time as her son. The most notable instance of finger distortion, with contraction of the palmar fascia, that I have come across, I now have under treatment at the hospital; the contracted bands are so prominent that the case might possibly have been mistaken for one of Dupuytren's contraction. The subject is a female twenty-one years old. There is no hardening of the skin or subcutaneous tissue at the present time, but had the patient allowed the deformity to exist for another period of twenty-one years it is probable that induration of the skin, from use of the hands, might have made the condition very closely resemble the other form of distortion. I operated in this case on the same day on which I am writing these notes, and by a remarkable

[1] Crook'd, like a crook; not crooked, awry.

coincidence my friend and colleague, Mr. Muirhead Little, has operated on an excellent example of double hammer toe with contraction of the plantar fascia.

I notice that Mr. Anderson describes hammer toe as more frequently affecting the little toe than any of the others. This is not in accord with the experience of most observers, and I fancy that what has been regarded as hammer toe in some of the cases[2] to which Mr. Anderson alludes is a condition of curling of the little toe, which is due to lateral compression of the foot by badly fitting boots. The little, fourth, and third toes are frequently, as it were, doubled up from this cause, the degree of folding decreasing from the little toe inwards.

Harley-street, W., Aug. 19th, 1891. F. R. FISHER.

THE HYDERABAD COMMISSION AND CHLOROFORM SYNCOPE.

To the Editors of THE LANCET.

SIRS,—Referring to an annotation in THE LANCET on a "New Taeory of Chloroform Syncope," recently published by me, Surgeon-Major Lawrie says, in your issue of the 8th inst., that the exact value of this theory may be measured by two facts; one being that the Hyderabad Commission has proved that there is no such condition as chloroform syncope, and the other that the new theory is based on views which Syme never held. It is true that the explanation I have offered as to the causation of primary syncope was never suggested by Simpson or Syme, however much their doctrine of the necessity of giving plenty of the anæsthetic may lend countenance to it. But, according to Surgeon-Major Lawrie, I have misrepresented them in saying that they taught this necessity. It appears to me that his own quotation from Syme justifies everything I have said. "Secondly," as he himself quotes, "if this is attended to, the more rapidly the chloroform is given the better, till the effect is produced; and hence we do not stint the quantity of the chloroform." I take this to mean we give "plenty of it," and could quote the language of numerous correspondents showing that they so understand it, although it is evident that for the Hyderabad Commission the words have no meaning at all. I can quote from memory, almost verbatim, Simpson's description of his own practice, and I think this will satisfy the readers of THE LANCET. "The quantity which I first pour on the towel," said he, "is usually *three or four drachms*" (the italics, I believe, are in the original), "and I renew this in a minute or so, if necessary." To those who seek safety in drop doses of the dangerous agent half an ounce every minute must surely seem a sufficiently strong and overwhelming dose of the poison. I hold this doctrine to be the whole secret of successful administration, and to those who do not believe that it formed any part of the teaching of Syme and Simpson I can only answer, that if it was not theirs, it is mine, and I am prepared to stand by it. Surgeon-Major Lawrie assumes that in fatal cases the administrator goes beyond the stage of anæsthesia and stertorous breathing, while I believe that in such cases he stops far short of this stage, that he practically gives no chloroform at all, and that reaction and syncope are the consequence. The Commission directs the chloroformist, if the breathing becomes irregular, to stop and begin again. On the contrary, I warn him that he is to be prepared for considerable irregularities in this function, and may even encounter a pause of a whole minute during which the patient takes not a single inspiration, and in spite of which he is to go on with the chloroform. Even if space permitted, it would hardly be worth while to go into detail as to the proof that there is such a condition as chloroform syncope. But I may say a few words about apnœa, or the pause which may occur in the respiration in the early stages, as it is a subject which the Commission has passed over in total silence, and as I believe it to have a direct practical bearing on some recent and lamentable fatal cases. We are told in these cases that in two minutes the breathing ceased, that the administrator at once stopped the chloroform, but that, nevertheless, fatal syncope resulted. The advice of the Commission having been carefully attended to, we may ask—Why the fatal issue? My answer is, that it was the natural consequence of the recommendation of the Commission being followed. The chloroformist mistook what was only a temporary pause in the breathing for respiratory paralysis, due to an overdose of the poison, promptly stopped the administration, and the syncope was the result of this stoppage. Had he gone on with the administration all would have been well, and there would have been no syncope. If I hold the teaching of the Commission responsible for the recent increase in the mortality from chloroform, I have some justification for doing so, for I have independent testimony that I predicted this would be the result. If the authority of the Commission were to remain, the death-knell of chloroform as an anæsthetic has been sounded. I am, Sirs, yours obediently,

Crieff, Perthshire, Aug. 15th, 1891. ROBERT KIRK, M.D.

[2] THE LANCET, Aug. 1st, 1891, p. 214.

DEATH UNDER ETHER.

To the Editors of THE LANCET.

SIRS,—If Dr. Dudley W. Buxton refers to p. 467, No. 8, vol v., of the *Occidental Medical Times*, being the number for this month, he will find an account of the death of a healthy woman, forty-one years of age, under etherisation. As the case is of some general interest, I send you a summary of it. The patient was admitted to hospital on June 1st, 1891, for the removal of an intra-uterine fibroid. She had had similar tumours removed in the autumn of 1889 and the spring of 1890, both operations having been performed under ether, "recovery being prompt." On admission the patient was very anæmic, but "the heart, lungs, and kidneys were in good condition. Fifteen minutes before the operation she was given one teaspoonful of aromatic spirit of ammonia and one tablespoonful of whisky, and when placed on the table she was in good condition." Twenty-five minutes after anæsthetisation "it was noticed that the heart was acting feebly. ..... Not more than five minutes elapsed from the first sign of heart failure until death supervened. Including the operator there were six physicians present, and it does not appear that anything further in the way of precaution or of prompt treatment when signs of collapse were manifest could have been accomplished." The above is not only death during etherisation in a healthy person, but it is also death from heart failure, and in a patient who had no ether idiosyncrasy, for she twice previously inhaled the drug with impunity.

I am, Sirs, yours truly,

Dublin, Aug. 19th, 1891. GEORGE FOY, F.R.C.S.I.

THE TITLE OF "DR."

To the Editors of THE LANCET.

SIRS,—Though rather late in the day, now that the new degree-giving University is decided on, may I ask the following question? Would not the total abolition of the M.D. and prefix Doctor be a simple means of settling the "burning question"? The public would not mind, and the profession ought to rejoice should such a thing occur. The public do not care what a medical practitioner's qualifications are if they think him a good doctor; for a knowledge of his qualifications give them no help in solving the question as to whether he is a good doctor. The multiplicity of qualifications has quite mystified the public. The profession might be glad to relegate to limbo a little which serves to single its members out from the rest of the world, and prevents them "dropping shop" as much as they might. Other men do not seem to require any special designation to indicate their occupation, and prevent them and their friends forgetting their vocation after work is done. Why should doctors? Have not doctors from the days of gold-headed canes down to now been a little too fond of airing their professionalism out of work hours? Is it an advantage to be announced by the servant on entering a room full of strangers as Dr. So-and-so, when the announcement is quite likely to be followed as one of the first remarks by, "Is there much sickness now, doctor?" Does the title Dr. So-and-so improve our social standing? Probably not. Has it not a narrowing influence on our ideas to be always talked to by people who, on account of the title Dr., must know our occupation, and probably frame their conversation accordingly? I believe that I am only one of many medical practitioners who think that if we did not differentiate ourselves so much, and were content to be like other educated members of the community in title, manners, and personal appearance, it would be better for ourselves both in public and private life.—I am, Sirs, yours truly,

Godalming, Aug. 27th, 1891. C. J. GIBSON, M.B.

THE TUBERCULOSIS CONGRESS.

(FROM OUR PARIS CORRESPONDENT.)

AMONGST the clinical lectures and demonstrations given in connexion with this Congress, a prominent place must be allotted to that of Professor Verneuil at the Hôtel Dieu. The professor, who is most enthusiastic in the conduct of the campaign against Koch's bacillus, took as his theme the germicidal properties of iodoform employed *intus et extra*. As this iodoform treatment has been in constant use in M. Verneuil's wards, both at the Pitié and more recently at the Hôtel Dieu, since 1884, ample materials for the formation of a sound judgment on its merits have been accumulated, and it says much in its favour that the professor is, in this year of grace 1891, as steadfast a believer in its virtues as he was when his quondam *chef de clinique*, M. Verchère, consecrated a chapter to a description of the method as applied to tuberculous glands in the first fasciculus of his master's "Études sur la Tuberculose," published in 1887. As the treatment is not so widely known in England as it deserves, I make no apology for making it the subject of my correspondence this week. M. Verneuil was careful to commence his lecture by declaring that it behoves the surgeon who desires to cure his tuberculous patients to allot the first place to therapeutics before having resort to operative measures, regarding the latter as only *adjuvants* to the former. He only intervenes surgically—as, for instance, for the removal of sequestra—when the field of operation (*champ opératoire*) has been rendered sterile by the appropriate use of iodoform. He reminded his hearers of the conclusive experiments of Gosselin of Caen, who found (*op. cit.*) that guinea-pigs, whose system has by a slow process been saturated with iodoform, are incapable of contracting tuberculosis by inoculation so long as the iodoformisation is maintained. As soon as the exhibition of the drug is intermitted, the evolution of the tuberculous process pursues its usual course. It will be seen that in the treatment of all kinds of surgical tuberculous lesions, M. Verneuil attaches capital importance to the practically indefinitely prolonged administration of small daily doses (one grain) of iodoform. He asserts that even after recovery from local manifestations of tuberculosis there is great danger of a recurrence in some part or other of the body on the cessation of the iodoform taken prophylactically. Toxic effects are guarded against by the examination of the urine every two days; directly the characteristic reaction denoting its presence in that excretion is perceived, its employment is temporarily suspended.

The local use of iodoform in the form of ether solutions (5 per cent.) completes the method of treatment pursued in Verneuil's wards. In the treatment of non-suppurating tuberculous glands, the interstitial injection of iodoformed ether (half a Pravaz syringeful for each gland) repeated weekly has cured hundreds of cases in, on an average, ten weeks. The swollen glands shrivel up and become almost imperceptible, and this without any scar—an important point in the case of cervical adenopathy in the female. When the gland has broken down, the same treatment as for cold abscesses is indicated—viz., aspiration of the abscess cavity, and the introduction of a variable quantity of the iodoform solution through the cannula left *in situ*. In cases of osteitis, osteo-arthritis, or visceral tuberculosis complicated with fistula, the solution is injected through the fistulous tract twice a week. In closed tuberculous cavities, such as joints, Verneuil never introduces at one sitting a quantity exceeding 100 grammes of the solution, representing five grammes of iodoform. After the operation the cavity becomes distended owing to the vaporisation of the ether, while the active ingredient is deposited on every point of the surface. A certain amount of pain is experienced, which, however, ceases when the ether vapour is allowed to escape through the cannula. Verneuil constantly cures cases of enormous abscesses (lumbar, psoas, &c.) in one or two *séances*. In order to bring about the same result in purulent collections complicated with fistula, repeated injections are necessary. In a perfectly closed cavity the tension of the ether vapour enables the iodoform to penetrate into the interstices of the diseased tissues, whereas this condition is wanting when a fistulous opening is utilised for the introduction of the drug. Glycerine is substituted for ether as a vehicle in cases of empyema, where the distension of the pleural cavity sometimes occasions an access of dyspnœa. To illustrate the beneficial effects of his method, M. Verneuil presented to the members of the Congress a series of ten patients cured of various forms of surgical tuberculosis. A rapid sketch of these cases will prove instructive; they comprise the following:—

CASE 1.—A woman, aged twenty-nine. Ulcer of the tongue since 1887. Admitted in 1889, there being a suspicion of syphilis. The mixed treatment (mercurial inunctions and iodide of potassium internally) was instituted without benefit. Inoculatory experiments having proved its tuberculous nature, the ulcer was cauterised with lactic acid, and iodoform administered; recovery in three months. Since 1889 she has continued to take a daily dose of one grain of iodoform.

CASE 2.—Hip-joint disease in a woman of thirty-two, dating from the age of eleven. Since 1885 the joint has been excised, scraped, and rescraped at intervals. In 1886 injections of iodoformed ether through the fistulæ; cure in one month. In 1889 slight relapse, yielding promptly to the same treatment.

CASE 3.—Child whose hip had been excised, with a negative result. Periodical scrapings during eighteen months. Sent into the country, the child recovers until "that plague (*fléau*) of thermal stations, the masseur," in his efforts to restore mobility to the anchylosed joint, provokes a relapse, an abscess forming. Cure by iodoform injections. *Apropos* of this case, M. Verneuil remarked that, far from regarding the occurrence of suppuration as a misfortune in joint disease, he makes use of the abscess cavity as a means of bringing iodoform in contact with the diseased articular surfaces. Before resorting to operation he strongly urges the surgeon to subject such cases to the iodoform treatment. In the course of thirty years the lecturer had only practised excision of the hip-joint five times, and since 1886 he has never once had occasion to resort to this expedient.

CASE 4.—A boy in whom in 1889 there appeared vertebral caries. A year later an abscess containing one litre and a half of pus was aspirated, and was injected with iodoformed ether. Two injections sufficed to bring about recovery. Like all the rest of M. Verneuil's patients, he takes the drug regularly internally.

CASE 5.—A man, strongly built, with disease of the lumbar vertebræ, complicated with an abscess reaching to the middle third of the thigh. Cured by a single injection.

CASE 6.—A similar case, cured by two injections.

CASE 7.—A man of thirty-two, now *garçon* in the professor's laboratory. Empyema in 1886, treated by aspiration, thoracentesis, and finally Estländer's operation. Admitted almost moribund in January, 1890. Recovery by intra-pleural injections of iodoform.

CASE 8.—An analogous case of old pleural fistula cured by five injections. A relapse cured in the same manner.

CASE 9.—A boy of eighteen with osteo-arthritis of knee with popliteal abscess. Anterior splint and injections every three days along the fistulous tracts. Recovery with ankylosis and without shortening in three months.

Such are the brilliant results yielded by a method of treatment which should be given a trial in England. This *résumé* of Professor Verneuil's work in this direction will, I trust, stimulate English practitioners to put the method into practice in suitable cases. It will be perceived that it is an eminently conservative method, and one readily accepted by sufferers and their friends.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Recent Execution at Liverpool.

THE execution of John Conway took place at Her Majesty's Prison, Kirkdale, on the 20th inst., and was attended by some circumstances which are to be regretted, since they furnished the material for most sensational paragraphs which duly appeared in the local and other papers. The facts were these: After the prisoner had reached the scaffold and the cap had been put over his head, he expressed a wish to speak, and, as the Roman Catholic chaplin urged the granting of this request, the cap was removed, and Conway was permitted to make a short statement. In readjusting the cap, it got over instead

of under the rope, which latter was thus next to the skin; hence its laceration and some hæmorrhage. Had it not been for the removal of the cap this untoward circumstance would not have occurred. Much has been published about the length of the drop, which was stated to be excessive. But it must be borne in mind that the committee appointed by the Government some years ago to inquire into the whole subject strongly urged the importance of death from shock to the base of the brain, with dislocation or fracture of the cervical vertebræ and laceration of the spinal cord, rather than death from suffocation. The latter is lingering, and in some cases has been painful; the former is instantaneous and painless, but involves a certain amount of risk of decapitation. This it is unquestionably desirable to avoid, since it is revolting to those who have to be present, and shocks public feeling. The drop given on this occasion was actually less than that suggested by the committee for a man of the same weight, and the scene, painful though it was, was much less so than too short a drop and a prolonged death from suffocation. Much has been done to improve all the details of an execution. The condemned person has now neither a long distance to walk nor steps to ascend, and every consideration is shown to his feelings. There are still some improvements which might be suggested by what has so recently occurred. One is, that any final statement should be made in the condemned cell or the pinioning chamber, and not on the scaffold; another is, that the position of the executioner should be more definite, and that he should be responsible to the Home Office rather than to the High Sheriffs, the latter being too numerous and too often changed to have proper control over such a functionary. The executioner should be restricted from any acts calculated to give rise to sensational paragraphs, and if the post could be held by someone having office in one of Her Majesty's prisons as warder or turnkey it would be better. The case of Conway conveys a warning to the public. His crime was one of the most atrocious that was ever committed—the murder of a poor innocent boy in cold blood, according to Conway's own showing, and from mere homicidal impulse. Though warned by the judge (Justice A. L. Smith) not to buoy himself up with hopes, he did so till two days before his execution, citing the Maybrick case as a reason why he should be reprieved. Within the last ten days five murderers have expiated their crimes upon the scaffold without any effort having been made on the part of the public to obtain a reprieve. It is clear, therefore, that popular sentiment is capricious and has changed; also that the time has not yet come for the abolition of capital punishment.

Death under Chloroform.

Patrick Hoy, seaman in West African service, who had had ague, was admitted into the Liverpool Royal Southern Hospital, to be operated on for fistula in ano, on Aug. 19th. Mr. Rawdon was to operate; Mr. Walker administered chloroform. On examination of the heart beforehand, nothing was found amiss. The patient took the anæsthetic well, and was quickly under its influence. The chloroform administration was stopped, and the patient was turned over on his right side. It was then seen that the patient was not breathing, and that the pulse had also suddenly ceased. The time of putting the patient in position did not occupy more than a very few seconds. All means likely to be of use were tried in order to restore animation, but the man never breathed again. On post-mortem examination, the left ventricle of the heart was found dilated and in a state of fatty degeneration. The right side of the heart and the veins were full of blood.

Liverpool, Aug. 25th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Newcastle Borough Lunatic Asylum.

IT is proposed to extend the accommodation at the Borough Lunatic Asylum, Coxlodge, by erecting a new building. The present asylum is divided into two parts, one portion for the male patients and the other for females. Each portion is capable of taking about 200 inmates. It is found that more accommodation is required, as a rule, for the female patients, so it is proposed to erect a new building, capable of receiving from 350 to 400 inmates, the present building being utilised for females. The Lunacy Commissioners having spoken so favourably of the Nottingham Asylum, a deputation of Newcastle justices visited that place about three months since, and were so much pleased with what they saw that it is probable that this asylum will form a model by which the justices will be guided in their building operations at Coxlodge. The cost of the new building will probably be from £60,000 to £70,000, exclusive of site, which was secured many years ago by the justices in anticipation of this extension. It is a piece of land of about fifty acres, and is close to Gosforth.

Trained Nurses in Workhouses.

The discussion on trained *versus* pauper nurses for workhouses which lately took place at Gilsland would seem to be bearing good fruit. The Whitehaven guardians have decided to employ trained nurses, and the subject is soon to brought before the Wigton guardians.

Death of Dr. Sanderson of Penrith.

The death of Dr. Sanderson of Penrith took place on Thursday last after a long illness, in his forty-sixth year. Dr. Sanderson occupied a very prominent place in the public affairs of the town; he was also surgeon to the Westmoreland and Cumberland Yeomanry Cavalry.

Palmer Memorial Hospital, Jarrow.

I hear that extensive alterations are taking place in the Palmer Memorial Hospital at Jarrow, which will add to its completeness for out- and in-door work. It is said that the last ball held for its benefit has produced a sum of over £50.

Death of Mr. E. A. Hedley, M.R.C.S., of Felton, Northumberland.

The death of Mr. E. A. Hedley of Felton, Northumberland, is announced. The sad event took place on Saturday last at Felton, where he was born about fifty-one years ago. He succeeded his father, who was a well-known surgeon, in the same place. The name of Hedley was therefore well known in North Northumberland, the practice of father and son extending from Alnwick in the north to Morpeth in the south, and from Rothbury to the sea coast. Some four months ago Mr. Hedley was attacked by influenza. Being of a strong, robust constitution, he thought he could work it off. His many calls forbidding him the rest absolutely necessary, he went on until tired nature could go no further; but then it was too late for recovery, as jaundice supervened and terminated his useful life. I understand that Mr. Hedley has left a son, who is a student of medicine at Newcastle.

The Walker Hospital.

The twenty-first annual report of this institution has just been issued, which is also a review of its history since its opening on May 26th, 1870. During this period 1520 in-patients have been treated, and since the rule was extended to deal with out-patients eight years ago 2805 have been treated. The report states the gratifying fact that all the men and boys connected with the works in the district have loyally kept up their payments of 6*d* per quarter; although this contribution is quite voluntary, no case of refusal has been known.

Sunderland.

A meeting is announced to take place this week in Sunderland at which the Mayor has promised to preside, to form a branch of the Surgical Aid Society for Sunderland and district. There has been a considerable increase in the rate of infantile mortality in Sunderland lately, and it is, notwithstanding the comparatively low temperature, in excess of last year. Whooping-cough, diarrhœa, and especially measles, are the principal factors; five deaths last week were due to measles. It is stated that a circular from the County Council will shortly call upon boards of guardians to deal with imbecile inmates better than at present. The Sedgefield County Asylum is full, and 174 patients are boarded out, the lowest rate being 16*s.* per week. The County Council circular will point out that at the present rate of increase of lunacy the asylum will be full in a year or so, even when Sunderland has made provision for its own insane. Several subscriptions have been received lately for the building fund of the Sunderland Eye Infirmary, including £100 each from the Earl of Durham and the Marquis of Londonderry.

Darlington: an Infant choked with Paper.

An inquest was held in Darlington on Monday last upon the body of a newly-born infant whose body was found in a ditch near the town. Mr. Manson, who made a post-mortem examination, said that the infant was healthy in all its organs and had an independent existence, and that someone had been present at the birth who was conversant with the usual practice. On looking into the mouth he saw an appearance of something white at the back of the tongue, and on further examination he found a considerable quantity of paper pressed and firmly wedged into the child's throat; the paper was not wet, but was in part coated with mucus. He believed that in this way the infant had been suffocated after birth. A verdict of "Wilful murder against some person or persons unknown" was recorded, and Mr. Manson was complimented by the coroner upon the manner in which he had given his evidence.

At a late meeting of the Gateshead Board of Guardians, Dr. Philip Brown of Blaydon resigned his position as medical officer for Winlaton, after a tenure of thirty-five years. The chairmain said that Dr. Brown had filled the office with credit to himself and satisfaction to the guardians. Another guardian remarked that the whole of the inhabitants of Winlaton deeply respected him.

Newcastle-on-Tyne, Aug. 26th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Death of the Lord Chancellor of Edinburgh University.

BY the death of Lord President Inglis the University of Edinburgh has lost its Chancellor. He was Lord President of the Court of Session, and, while occupying with great distinction his seat in the highest court in Scotland, he was also one of the greatest ornaments the University possessed. His form will be remembered by many of the thousands who received their medical degrees during the years he held his high position in the University, and discharged the duties and honours of the office with so much courtesy and grace.

Health of Edinburgh.

The mortality last week was 89, and the death-rate 18 per 1000. Diseases of the chest accounted for 34 deaths, and zymotic diseases for 8; of the latter, 1 was due to typhoid fever, 1 to diphtheria, 2 to scarlatina, 2 to measles, and 2 to whooping-cough. The intimations for the week were—typhoid fever, 9; diphtheria, 7; scarlatina, 11; and measles, 19.

Glasgow Maternity Hospital.

Dr. Murdoch Cameron has operated upon his thirteenth case of Cæsarean section. The patient was rachitic, and was sent from a neighbouring town, after being three days in labour. Both mother and child are doing well. The latter weighed 8 lb., and is at the breast.

Aug. 24th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Penalties for Infringement of the Pharmacy Act.

SEVERAL parties in Dublin were prosecuted last week, at the instance of the Pharmaceutical Society of Ireland, for having sold and kept open a shop for the retailing and compounding of prescriptions, contrary to the provisions of the Pharmacy Act (Ireland), 1875, they not being qualified to do so. They had arranged, it appears, with a pharmaceutical chemist to put his name on the medicine labels, and the magistrate, having heard evidence bearing on the matter, fined each of the defendants in sums varying from £1 to £5 and costs in each case.

Queen's College, Cork.

During the session 1890-91 the students attending the College classes amounted to 234, of whom 175 were in the Faculty of Medicine. In the previous session the numbers were 238 and 167 respectively. A new library appears to be urgently required, and also a new chemical laboratory. In the present one there is accommodation for only thirty students, and of late years there has been an average attendance of nearly twice that number; hence the Professor of Chemistry has been obliged to divide his class into two sets, at a cost of double labour and of complicated arrangements, to avoid interference with other lectures. The College Council in January last instituted lectureships in certain subjects in which a want of special teaching had long been felt, and the following appointments were made:—Pathology, Dr. J. Cotter; Ophthalmology and Otology, Dr. Arthur Sandford; Hygiene, Mr. Denis D. Donovan, L.R.C.P. Edin. &c.; Architecture, Mr. A. Hill; while the vacant lectureship in Psychological Medicine has been filled by the appointment of Dr. Oscar Woods. The Professorship of Chemistry in this college has, I understand, become vacant by the resignation of Dr. Maxwell Simpson, F.R.S., and the candidate selected will enter upon his duties early in October. The emoluments of the post last session amounted to £587, of which sum £295 was obtained from the class fees. The appointment is nominally in the gift of His Excellency the Lord Lieutenant, but virtually lies with the Chief Secretary for Ireland. The candidates mentioned are the Professor of Chemistry in Queen's College, Galway, and the Professor of Chemistry in the Schools of Surgery, R.C.S.I.

Idiot and Imbecile Children in Lunatic Asylums.

The inspectors of lunatic asylums, in their recent report, state that one of the greatest requirements in connexion with lunacy in Ireland is the establishment of a national institution for the training and education of idiots and imbeciles, such as the Larbert and Baldovan Institutions in Scotland and the Albert and Earlswood Asylums in England. At a rough estimate there are not less than 3000 idiots and imbeciles in Ireland, of whom probably 500 are under fifteen years of age, and at least one-half would be improvable and derive benefit from the special training in idiot schools. But, apart altogether from improvement by training, there is a great want in Ireland of an establishment especially adapted for the reception of young idiots, where they would be removed from the neglect they so frequently experience at home, or from the contaminating influence of association with the adult lunatics in asylums or the pauper inmates of workhouses. The existing lunacy laws were not made for imbeciles, and we find in Ireland no less than 418 occupying in district asylums accommodation intended for different forms of insanity; while no less than 1888 are located in workhouses, where the provision made for them is often inadequate, and where their presence exercises a painful and demoralising influence on the other inmates. The accommodation required for this class, and the costly educational appliances, would entail so large an expenditure that private benevolence could not supply the want, and the inspectors consider that the urgency of the case justifies them in expressing a hope that Government assistance may be granted towards the establishment of such institutions. In Ireland a sum of money, either from the Church surplus or from the new grant for primary education, might be diverted towards the establishment of a national training school for idiots and imbeciles, and after the establishment of such an institution the Government capitation grant should be given to the children, not as paupers, but as imbeciles, under proper medical certificates, whether the parents are paupers or above that class, as was recently recommended by the Royal Commission, presided over by Lord Egerton.

The Hospital for Consumption and Diseases of the Chest, Belfast.

In response to a special appeal made by Mrs. Purdon (widow of the late Dr. T. H. Purdon) on behalf of the building and endowment fund of the Hospital for Consumption and Diseases of the Chest, I learn that altogether a sum of £3802 18*s.* 4*d.* is now in the hands of the treasurer. This includes a donation from Mr. Forster Green of £2000 for the purchase of the site for the intended new hospital, in addition to £350 already subscribed by him. The committee, being anxious to build a hospital adequate to the requirements of the neighbourhood, will not commence operations until a much larger sum has been collected.

Bequests to Medical Charities in Belfast.

The late Mr. Thos. Bones, a well-known merchant in Belfast, has left £1000 to the Royal Hospital, £1000 to the Throne Convalescent Hospital, and £100 to the Children's Hospital, Queen-street, Belfast. Miss Charters (recently

deceased) has left £1000 to the Royal Hospital, £1000 to the Children's Hospital, Queen-street, and £1000 to the Samaritan Hospital, Belfast.

Death of Mr. Savage, Newry.

Mr. Savage of Newry died suddenly at Portrush, co. Antrim, on Monday, Aug. 17th. He had been staying for some time at this favourite summer health-resort, and on the day of his decease he was called to visit a lady friend from Londonderry, who was suffering from neuralgia, and while applying a lotion to her head he complained that he felt unwell, and was obliged to lie down on a bed, where he expired in a few minutes, it is believed, from heart disease. Mr. Savage, who obtained the M R C S. Eng. in 1845 and L R.C.P.Ed. in 1866, enjoyed a large share of practice in Newry, where the news of his sudden death caused a feeling of profound regret amongst his numerous patients. He was buried in the family interment ground at Birr Chapel, Newry, an immense concourse of all sections of the community attending. Great sympathy is felt in Newry for his bereaved family. Mr. Savage has a son in practice in Cairo.

Reformatory and Industrial Schools.

The report of the Inspector of Reformatory and Industrial Schools of Ireland has just been issued. As regards juvenile convictions, it is satisfactory to learn that there has been a persistent decrease from year to year, and that the number has fallen from 1160 in 1880 to 744 in 1890, which is a decrease of over 35 per cent. There has been a large income, derived from industrial profits (by industrial schools), some £12,000, an increase of about £2000 over the previous year. This sum is made up largely by farm and garden produce, and such industries as carpentry, tailoring, knitting, &c. The health of the children has been satisfactory, and no death occurred in a reformatory school from either a contagious or infectious malady. As regards industrial schools, there were 82 deaths out of close upon 10,000 children detained in them during the year. Of these 41 were from lung disease, 18 from brain disease, and 2 from fever. The small mortality from contagious or infectious disease in industrial schools speaks well for the observation and care taken by the managers as regards new admissions and isolation. The total amount expended for reformatory schools was £17,190 8*s.* 7*d.*, and for industrial schools £158,274 1*s.* 1*d.*

Aug. 24th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Climate of Heligoland.

DR. VON KREMSER has just published an article on the climate of Heligoland in the "Annals of Hydrography" ("Annalen für Hydrographie"), which communicates the results of the meteorological observations made on the island since 1875, and draws deductions from them. The island, he says, is the best representative of the sea climate in the German empire. The variations of temperature are less than in any other part of Germany. The highest mean temperature does not set in before the middle of August. September is warmer than June. The lowest mean temperature is common to January and February. Autumn is warm, winter mild, spring cold, and summer cool. From November to January Heligoland is on an average the warmest place in Germany, in summer the coolest, except in the mountains. For almost three-quarters of a year (namely, in the cooler seasons) it is warmer at 6 A.M., and for an equally long period (namely, in the warmer seasons) it is cooler at 2 P.M., than at any other German station. The variation of temperature is the least in all Central Europe. The absolute and relative humidity are high, and their annual and daily variations are less than in the rest of North Germany. As regards the stature of its inhabitants, Heligoland is surpassed only by some mountain places. Unlike the inland districts, it has a foggy spring and little fog in autumn. Late summer and autumn are rainy, spring and early summer dry. As regards the frequency of showers, it has no rival in the North German inland districts, perhaps not even in the mountains. Snow showers are rarer than in the rest of North Germany, and the frost is remarkably late; the maximum of frequency is in March. In the matter of wind, Heligoland takes a middle position between the southern and the eastern part of the North Sea coast. The strength of the winds shows a marked yearly course, but no daily one; the maximum is in October and November, the minimum in May and June. No month is quite safe against storms, but they are very rare in April, May, and June. The stormiest time is the beginning of December.

Medical Advice for the Tropics.

Dr. Paul Kohlstock, of the Friedrich Wilhelm's Institute for the Training of Medical Men for the Army, has just published a book entitled "Aerztlicher Rathgeber für Ostafrika und Tropische Malariagegenden" (A Medical Adviser for East Africa and Tropical Malarial Districts). He has received the following letter from Major von Wissmann, who ought to be a judge of such a book: "I have seen with great satisfaction from your last work, 'Aerztlicher Rathgeber in Tropischen Malariagegenden,' that, after correct contemplation of the hygienic conditions in East Africa as regards residence there and the necessary way of life, you have met an urgent necessity, and at the same time put your scientific observations of the country and the people successfully on paper. Of very great importance are the general councils you give in the first part of your work to persons travelling to East Africa, and other tropical countries, for it is just in this point that the uninitiated so often err for want of the possibility of informing themselves. The graphic and interesting description of the people and the country, and of life and work in East Africa, give the book an advantage over every didactically written instruction-book, and is a guarantee to me that it will find circulation not only in professional but also in the widest circles, especially in those interested in our colonial efforts and our African colonies."

Koch's Institute for Infectious Diseases.

I have already had occasion to send you from time to time partial descriptions of Koch's new Institute for Infectious Diseases, but I may perhaps be permitted, considering that the establishment is the embodiment of Koch's own ideas and wishes, and is doubtless unique and exemplary in various respects, to lay a fuller account of it before your readers, now that it is complete. It consists of a scientific department and a department for patients, the former of which is accommodated in the triangular building beside the old Charité, while new buildings have been erected for the latter on the long strip of ground between the Charité and the City Railway. These buildings form a group of one-storeyed barracks, nine in number, in the midst of which stands the two-storeyed building which is the administrative centre of the establishment. Seven of the barracks are for patients, two for the attendants. Of two of the seven patients barracks, each contains one ward with eighteen beds. Of two others, each contains a ward with fourteen beds, and two rooms with two beds each. Of the other three, each is divided lengthwise by a wall without any opening in it into two wards with six beds each. Each of the two first-mentioned barracks has a day-room, which patients who are not confined to bed can enter directly from the ward. The inner surfaces of the walls in the patients' barracks are painted in oil with a coating of enamel, so that they can be washed at will with disinfectant fluids. The washing and closet utensils are so arranged that there are no little corners for dirt to collect in. The ventilation is so good that the air in the wards and sick-rooms is completely changed twice every hour. The central building contains the administrative offices, a lecture-hall seating sixty, and dwellings for two medical officers and several nurses. Near it, but quite away from the patients' barracks, are the post-mortem and disinfecting rooms. Disinfection is effected by means of a Henneberg's disinfector. The disinfection-rooms are so arranged that the articles to be disinfected go direct from the place of delivery into the apparatus, and are taken from it in another room. The building also contains a bath-room for the persons engaged in the work of disinfection. The patients' department will not be used for purposes of instruction, and only theoretical lectures will be delivered in the lecture-hall. The scientific department, too, will not be open to students, but medical men with the necessary preliminary training will be allowed to work in it. Besides Dr. Pfeiffer, the head of this department, twenty assistants and volunteers are now at work, some of whom are at the same time employed in the patients' department. Koch's own laboratory is at the northern corner of the first storey of the building, and those of his fellow-labourers two, three, or four of whom work together in each room,

are on the same floor. So far as personal comfort is concerned, the furniture of these little laboratories is of Spartan simplicity, but their scientific equipment is most complete and select. The large incubators are built on the model of those in Pasteur's Institute, so that their internal temperature is not affected by the fluctuations of that of the surrounding air. The uppermost storey contains the chemical and photographic laboratory and the library. The latter consists of books from the collection of the Hygienic Institute and from Koch's own library. The greater part of the ground floor is used for dwellings for the officials of the establishment, and the remainder for keeping the animals needed for experimental purposes. A part of the cellarage is also reserved for animals. Their remains are destroyed in a little crematorium.

Virchow's Observations on Old Athenian Skulls.

At the last sitting of the Royal Academy of Science here, Professor Virchow made interesting communications regarding his measurements of old Athenian skulls dug out by the late Dr. Schliemann, who was a personal friend of Virchow, from his own ground in University-street in Athens. He found eleven graves there, ten of which, judging by their contents, were of the fourth, and one of the sixth century before Christ. The sarcophagus in this latter grave must have been of wood, Dr. Schliemann thought, for there was not a vestige of it left. All the graves contained human bones, but only four skulls could be taken out in a tolerably unimpaired condition, and these Virchow has measured. All four must have belonged to adults, probably of advanced age. The most remarkable thing about them is the smallness of their capacity. Virchow made a similar observation in 1871 on two skulls dug out in Piræus-street in Athens. One, which belonged to an old woman named Glykera, was of the Macedonian time; in the other grave, that of a powerful man, numerous clay vessels of the most ancient style were found. On that occasion also, Virchow remarked that the small capacity of those skulls was surprising, being so much below the average of other civilised peoples that one was inclined to suppose them to have belonged to members of a savage race. This singular fact should make one pause before accepting capacity of skull as a measure of the civilisation of a race, as some anthropologists have done.

Legislation against Drunkenness.

With reference to the proposed legislation against drunkenness, the Medical Board of Saxony has unanimously resolved to express the opinion that persons who violate the laws in a state of unconsciousness, or morbid disturbance of the mind should be held responsible, if the said condition be due to drunkenness for which they were themselves to blame. The Medical Board will also advocate the framing of a statute which will make it possible, under certain conditions, to place drunkards under guardians.

Out-door Games.

A course of instruction in out-door games will be opened for teachers in Berlin in the third week of September. This is an omen of a better time coming for young people in Germany, where the more or less complete absence of out-door games for young and old is a sad feature in the life of the people. The Emperor is enthusiastically in favour of a change in this direction, and plays football himself with his own sons and Prince Henry at the new palace near Potsdam.

A New Portrait of Professor Virchow.

Professor Hugo Vogel has received an order from the city of Berlin to paint a life-size portrait of Virchow—who numbers among his multifarious functions those of a city deputy—for the Town Hall here.

A New Lunatic Asylum for Berlin.

The new lunatic asylum for the city of Berlin at the neighbouring village of Lichtenberg is to be opened in three or four weeks. It will accommodate 1200 patients, and will be almost filled at once, partly by patients at present lodged at the city's expense in families or private asylums.

A New Crematorium.

A crematorium was opened at Hamburg on the 22nd inst. The cremation societies of Vienna, Stuttgart, Frankfort, and Dresden sent deputations; other societies congratulatory telegrams.

The Treatment of Cancer.

Professor Adamkiewicz of Lemberg, who professes to have discovered a new remedy for cancer, has applied to the Austrian Ministry of Education for permission to make experiments in one of the establishments connected with the University of Vienna. This request has been granted, and he will make his experiments in Albrecht's Clinic.

The President of the Berlin police warns the public against eating crabs boiled in a state of incipient putrefaction, as several cases of dangerous illness have recently been traced to this cause.

A pocket dictionary of German, English, and French medical terms, by Dr. Eugene Lehfeldt, has been published here.

Berlin, August 25th.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

National Educational Association.

FOR the first time in its history this Association, the largest and one of the most influential upon the American continent, met beyond the limits of the United States, the annual meeting being held in Toronto. Delegates were present from all districts both of the States and Canada, there being about 15,000 in attendance. Never has Toronto been favoured with so large and important a gathering, and much benefit must her educationists have derived from the gathering.

New Criminal Code.

The Minister of Justice, Sir John Thompson, has recently presented a new Bill before the Dominion House respecting criminal law. It is a volume of 340 pages and some thousand clauses. At present criminal cases are tried under the Imperial statutes. The Bill contains instructions regarding the plea of insanity—a much-needed measure, seeing that the plea is so frequently made use of.

Deaths of two Montreal Doctors.

The profession in Montreal has recently lost two of its prominent members. The first is Dr. R. L. Macdonell, physician to the General Hospital and Professor of Clinical Medicine at McGill University. The deceased was one of the most promising of the younger members of the profession, and his death at the early age of thirty-eight is deeply regretted. Early in the month, Dr. T. A. Rodger, who for some years has acted as chief medical officer of the Grand Trunk Railway, died at his residence, after a long and painful illness, aged forty-four years. Both gentlemen were graduates of McGill University.

Honours for Sir Daniel Wilson.

A cable message announces that the President of the University of Toronto is to be honoured by the city of Edinburgh conferring the freedom of that borough upon him.

The Potency of Religious Relics.

At this season of the year is annually witnessed the sight of thousands of pilgrims to a well-known shrine in the province of Quebec, where heretofore many questionable cures have been wrought through St. Anne, assisted by a fragment of a digital phalanx which once formed a part of that good woman's anatomy. This year a further addition of an "entire finger joint" has awakened fresh interest among "the faithful," while a branch establishment has been started at Perio, on the Gulf of St. Lawrence, where are to be found another fragment of bone and portion of her shroud. To show that this decaying remnant of mediævalism has still a foothold in Canada, the following is taken from the *Toronto Mail* of Aug. 4th:—"Quebec, Aug. 3rd: Yesterday more than eight thousand pilgrims visited the shrine of St. Anne, and a girl named Cote, of St. Paul de Montmagny, who was carried into the church in a lethargic state, lame and dumb, walked away after communicating, apparently perfectly cured."

Toronto, Aug. 10th.

Obituary.

SAMUEL CARTWRIGHT, F.R.C.S.

THE profession at large, and especially that section of it to which he more closely belonged, will hear with regret of the death of Mr. Samuel Cartwright, who passed away on the evening of Aug. 23rd, in the seventy-sixth year of his age. The son of a celebrated member of the dental profession,

he was destined to follow in his father's footsteps, and to him it is to a large extent due that dental surgery has attained to the high position which it now deservedly holds. He received his medical education at the London Hospital, and became a Member of the College of Surgeons in 1838, and, having determined to elect the line of practice which his father had followed with such brilliant success, he commenced his career first in Sackville-street, and subsequently in Savile-row, whence he removed to the house of his father in Old Burlington-street when this gentleman was removed from active practice by illness and death. At this time those who adopted dental surgery as a profession had many difficulties to encounter; but the subject of this memoir and some others equally well educated assisted greatly by their acquirements and strict professional bearing in causing their department to be looked up to with the honour and respect in which it is now held. Mr. Cartwright, by the influence which he possessed with his professional brethren, very largely contributed to the reform of dental surgery; and when, indeed, the subject was first firmly grappled with, the question asked was, What does Mr. Cartwright think about it? and thus it was that his advice was so much sought and acted upon. He was amongst the first-elected surgeons of the Dental Hospital, also lecturer on dental surgery and pathology at that school, and twice president of the Odontological Society. As soon as the College of Surgeons established the curriculum in connexion with the licentiateship of dental surgery, King's College instituted a special chair, and Mr. Cartwright was made professor, at that time being dental surgeon to the hospital. He filled these posts with great honour to himself and benefit to the College for several years. He was in due course appointed one of the examiners at the Dental Board of the Royal College of Surgeons, and with faithfulness and suavity of manner performed his duties to the satisfaction of all. After long service in these various honourable positions, and finding the demand on his time great, he relinquished them all.

It is difficult to do adequate justice to the character of the subject of this memoir. Mr. Cartwright was a man of spotless character and of the highest integrity, and those who were fortunate enough to share his friendship knew what a weight of wealth there was in him. The favourite pursuits to which he was addicted agreed well with his quiet and undemonstrative manner, and added much to the charm of his society. He was not only very fond of painting and music, but he was a skilful artist and had a well-trained ear, and few things gave him more pleasure than listening to a well-rendered glee at one of the clubs to which he belonged, and where he will be much missed. He was fond of social life, and few men were more esteemed than he was for his high integrity, his gentle and pleasing manners, and his cultured intelligence. After a long and active career, Mr. Cartwright a few years since sought that repose which was his due, and retired from practice. Not long ago he experienced a severe blow in the loss of his wife; he had also a severe illness himself, from which, however, he recovered, and continued in fair health for some few years. His last illness came on gradually, and seemed to be more of a general breaking up than any special malady, for he had little suffering, and passed away in a manner well befitting his gentle and blameless life.

METROPOLITAN ASYLUMS BOARD.

Return of Patients remaining in the several Fever Hospitals of the Board at Midnight on August 25th, 1891.

Hospital.	Beds occupied.						Total accommodation.
	Scarlet fever.	Diphtheria.	Typhus fever.	Enteric fever.	Other diseases.	Total.	
Eastern Hospital	175	67	1	59	..	302	442
North-Western Hospital	145	34	..	23	1	203	443
Western ,,	121	15	..	7	1	144	224
South-Western ,,	143	17	..	11	1	172	340
South-Eastern ,,	165	11	2	13	2	193	462
Northern ,,	184	20	..	14	..	218	480
Totals	933	164	3	127	5	1232	2391

Medical News.

SOCIETY OF APOTHECARIES OF LONDON. — The following candidates have passed the examination in the subjects indicated:—

Surgery.—J. Fearnley, Yorkshire College, Leeds; A. S. Phillips, St. Thomas's Hospital; T. Prescott, King's College; P. Mackin, Glasgow; E. R. Sims, Leeds and Glasgow; H. S. Smith, Toronto; W. R. Thomas, London Hospital and Montreal; S. B. Williams, St. Mary's Hospital.

Medicine, Forensic Medicine, and Midwifery.—J. Crooks, Toronto; J. Fearnley, Yorkshire College, Leeds; P. Mackin, Glasgow; J. J. Mooney, Manchester; C. K. Moseley, St. Bartholomew's Hospital; W. Overend, St. Mary's Hospital; S. C. Smith, Middlesex Hospital; C. H. C. Visick, University College.

Medicine and Midwifery.—A. Paling and G. J. Rutherford, Middlesex Hospital; J. D. H. Smyth, St. Mary's Hospital.

Forensic Medicine and Midwifery.—G. Grace, Bristol.

Medicine.—H. E. Pittway and W. A. Ward, Middlesex Hospital.

Midwifery.—E. E. Frazer, Guy's Hospital; P. T. Naden, Birmingham.

Forensic Medicine.—J. F. Brown, Toronto; B. F. Parish, St. Mary's Hospital.

To Messrs. Brown, Fearnley, Mackin, Parish, Phillips, and S. C. Smith was granted the Diploma of the Society, entitling them to practise Medicine, Surgery, and Midwifery.

BRIDLINGTON LLOYD COTTAGE HOSPITAL.—This very useful institution held its annual meeting last week in the committee-room of the hospital, when a satisfactory statement was made of the present position of the institution, as well as of the benefits it had conferred on inhabitants of the town and neighbourhood.

PROPOSED HOSPITAL FOR NUNEATON.—Successful initiatory steps have been taken towards erecting a hospital for the requirements of this growing town and district. Mr. Tomlinson, the lord of the manor, has given an eligible site, and funds are promised which will probably enable the building to be forthwith commenced.

EXPOSURE OF SCARLET FEVER PATIENTS.—At Wolverhampton recently a labourer and his wife were each fined 40*s.* and costs, or one month's imprisonment, for permitting their three children to run about the streets whilst suffering from scarlet fever. Moreover the wife is a laundress, and when the sanitary officer called at the house he found three lots of linen from families in the town, which the woman had fetched to wash.

BARNSTAPLE AND NORTH DEVON INFIRMARY.—The efficiency of this institution is satisfactorily maintained. During the past year 636 in-patients and 2281 out-patients had been treated, and the percentage of deaths reduced by 40 per cent., chiefly attributed to the improvements in the internal condition of the institution. A thorough renovation of the interior had been effected at considerable cost. The financial position shows a debit balance on the year of £315 17*s.* 4*d.*

SANITARY INSPECTORS' ASSOCIATION.—The annual meeting of the Association of Sanitary Inspectors of Great Britain took place on Wednesday at Hastings, where the members were received by the Mayor of the borough at the Town Hall. The Chairman of the Association was Mr. Hugh Alexander, in the absence of the President, Dr. B. W. Richardson. Referring to recent legislation, the Chairman said the Government proposal to give to sanitary inspectors that lease of office which was their just due had unfortunately not received Parliamentary sanction. In the House of Commons the words "sanitary inspectors" were omitted, although like privileges were bestowed upon medical officers of health. Thanks to the support given by Earl Fortescue, the words were reinstated when the Bill came before the Lords; but when their lordships' amendments were considered in the Commons, the sanitary inspectors were relegated to their present unsatisfactory position. He could not divine what was the cause of this opposition, and believed it to be the device of the enemy. Dr. A. Scarlyn Wilson, medical officer of health for Hastings, gave an address on "The Sanitary Advantages of Hastings." The members subsequently proceeded to the Queen's Hotel, where, with a number of local guests, they were entertained at luncheon by the Mayor and Corporation. A visit was afterwards paid to the sewage precipitation works at Bo-peep, the waterworks, the St. Leonards Garden, and the refuse destructor.

AIX-LES-BAINS.—A plan, said to be approved by the Hygienic Committee, is about to be elaborated for the drainage of this favourite spa.

LEAVESDEN ASYLUM.—At an estimated outlay of nearly £6000, the Metropolitan Asylums Board contemplate erecting a recreation hall at their Leavesden Asylum.

LEAD-POISONING IN YORKSHIRE.—At a meeting of the Wakefield Rural Sanitary Authority this week Mr. J. W. Walker, medical officer of health, reported that during the past month his attention had been called to several cases of lead-poisoning. He considered the use of the present soft-water supply was injurious to the public health, and advocated the addition of chalk to the water before being distributed.

PRESENTATIONS.—Mr. J. H. G. Drummond, L.R.C.P., L.R.C.S., Edin., of Bury New-road, Higher Broughton, Manchester, on the occasion of his leaving that city (where he had been in practice for about ten years) for Wellington, New Zealand, has been presented by his friends, and many of his patients, with a farewell address, inscribed in a handsomely bound album, accompanied by a purse of gold, as tokens of esteem and regard.—Mr. Joseph Stevens, L.R.C.P. Lond., M.R.C.S. (retired), of Hurstbourne, Alexandra-road, Reading, has been presented by the inhabitants of the borough with an address, as a token of respect and high appreciation of his services as the first honorary curator of the public museum in that town. At the same time the ceremony was performed of unveiling a marble bust of Mr. Stevens erected in the new Town Hall, bearing an appropriate inscription, as a memorial of his scientific and administrative talents.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

ANDERSON, J. K., M.D., L.R.C.S. Edin., has been reappointed Surgeon to the Infirmary, Arbroath.

BARRINGTON, A. E., M.B., C.M. Dub., has been appointed Honorary Surgeon to the Castlemaine Hospital, Victoria, Australia.

BLACK, VICTOR, M.B., C.M. Edin., has been appointed Government Medical Officer at Yilgarn, Western Australia.

BOA, J. F., M.B., C.M. Glasg., has been appointed Medical Officer for the Workhouse and the Bishop's Castle (No. 1) Sanitary District of the Clun Union, vice Howard.

BROOKS, F. A., M.D. Brux., M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer to the Fifth District of the Woodbridge Union, vice H. J. Hibberd, resigned.

CAMPBELL, H. W., M.R.C.S., L.S.A., has been appointed Government Medical Officer at Tonga Islands.

COLLINS, M. JOS., L.R.C.S. Edin., has been appointed Government Medical Officer at Clermont, Queensland, vice Candiottis, deceased.

DEWAR, J. A., M.D., L.R.C.S. Edin., has been reappointed Consulting Surgeon to the Infirmary, Arbroath.

DUPRE, A., Ph.D., F.R.S., has been appointed Public Analyst to the Rural Sanitary Authority, Guildford.

FLANAGAN, P. J., L.R.C.P., L.R.C.S. Irel., has been appointed Medical Officer to the Bangor Dispensary District, Co. Mayo.

HEUSTON, B. T., L.R.C.P., L.R.C.S. Edin., has been appointed Public Vaccinator for the District of Helensville, New Zealand.

HILLIER, SYDNEY, M.B., C.M. Edin., has been appointed Second Assistant Medical Officer to the St. Marylebone Infirmary, vice F. Faichnie.

HOWARD, H., M.B. Camb., M.R.C.S., has been appointed Health Officer for the Port of Williamston, Victoria, Australia, vice Henman, resigned.

INGLIS, H. M., M.B., C.M. Edin., has been appointed Public Vaccinator for the District of Ross, New Zealand, and Honorary Surgeon, on the General Medical List, of the New Zealand Volunteers.

JONES, G. E., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the West Ardsley District of the Wakefield Union.

LAING, D., M.D., M.B., C.M. Edin., has been reappointed Surgeon to the Infirmary, Arbroath.

LAMROCK, LESLIE J., M.B., C.M. Edin., has been appointed Resident Medical Officer to the Pontefract General Dispensary and Accident Ward.

MAHER, JAMES, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed a Public Vaccinator in South Australia.

MARTIN, SIDNEY, M.D., F.R.C.P., has been appointed Assistant Physician to University College Hospital.

MUNRO, R. H., M.B., C.M. Edin., has been appointed Surgeon to the Infirmary, Arbroath.

PAGET, STEPHEN, has been appointed Medical Examiner to the West-end Branch of the New York Mutual Insurance Company.

PAULI, H. C., L.R.C.S., L.R.C.P., L.M., has been appointed Medical Officer to the North Ward of the Borough of Luton with Stopsley.

RIDLEY, EDWARD H., M.B., C.M. Edin., has been appointed Junior House Surgeon to the Western General Dispensary, Marylebone-road, N.W.

RUSSELL, JOHN, M.D., M.B., C.M. Aberd., has been reappointed Surgeon to the Infirmary, Arbroath.

SIMS, G. S., L.R.C.P. Lond., M.R.C.S., has been appointed a Medical Officer of the Derby Union.

SMITH, H. G., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer of Health for the Rural Sanitary District of the Stockport Union, vice Bale, resigned.

SORLEY, JOHN, M.B., C.M. Edin., has been appointed Public Vaccinator for the District of Feilding, New Zealand.

SPINKS, ALFRED WILLIAM, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed House Surgeon to the Chorlton-on-Medlock Dispensary, All Saints, Manchester.

STEELL, J., M.B., C.M., L.R.C.P., L.R.C.S. Edin., has been appointed Junior Medical Officer to the Hospital for the Insane, Ararat, Victoria, Australia, vice Moreton, resigned.

VICARS, FREDERIC GEORGE, M.R.C.S., L.R.C.P. Eng., has been appointed Physician to the Chelsea, Brompton, and Belgrave Dispensary.

WANNAN, G. W., L.R.C.S. Edin., has been reappointed Honorary Consulting Surgeon to the Infirmary, Arbroath.

WILLIAMSON, A. S., M.B., C.M. Aberd., has been appointed Medical Officer for the Sandal Magna Sanitary District of the Wakefield Union.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement.

Apply, 60, King-street, Regent-street, W.—Locum Tenens for four weeks, to act as Resident Medical Officer to a West-end Dispensary. Terms 2 guineas per week, rooms, and attendance, without board.

COVENTRY AND WARWICKSHIRE HOSPITAL, Coventry.—Assistant to the House Surgeon for six months. Honorarium £15, with board, residence, washing, and attendance (exclusive of beer, wines, and spirits).

HOSPITAL FOR WOMEN (LONDON SCHOOL OF GYNÆCOLOGY), Soho-square, W.—Clinical Assistants.

INDIGO PLANTERS OF SARUN, BENGAL.—A Doctor, qualified. Funds now subscribed amount approximately to Rs. 7000 per annum, and other practice amounting to an additional Rs. 3000 per annum will also probably be available. (Apply in the first instance to Messrs. Grindlay & Co., 55, Parliament-street, London.)

ISLINGTON DISPENSARY, 303, Upper-street, Islington.—Resident Medical Officer. Salary £200 per annum, with unfurnished apartments, coals, and gas, and an allowance of £20 per annum for cab fares.

LUTON FRIENDLY SOCIETIES' MEDICAL INSTITUTE.—Assistant Medical Officer. Salary to commence at £140 per annum, rising £10 per annum up to £160. (Apply to the Secretary, 12, Grove-road, Luton, Beds.)

LONDON TEMPERANCE HOSPITAL, Hampstead-road, N.W.—Junior House Surgeon for six months. No salary. Board, washing, and residence in the hospital provided, and an honorarium of 5 guineas at the expiration of the term.

MEMORIAL HOSPITAL, Jarrow-on-Tyne.—House Surgeon for three years. Salary, progressive, £130, £150, and £170 respectively. To reside and board free in the hospital.

QUEEN'S COLLEGES, Ireland.—Professorship of Chemistry in Queen's College, Cork. (Apply to the Under Secretary, Dublin Castle.)

ROYAL NATIONAL HOSPITAL FOR CONSUMPTION, Ventnor, Isle of Wight. Resident Medical Officer. Salary £100 per annum, with board and lodging in the hospital. (Apply to the Board of Management, at the London office, 34, Craven-street, Charing-cross.)

ROYAL UNITED HOSPITAL, Bath.—House Surgeon. Salary £60 per annum, with board, lodging, and washing.

SALFORD ROYAL HOSPITAL.—House Surgeon. Salary £100 per annum, with board and residence.

UNIVERSITY OF ABERDEEN.—Six Examiners in Medicine for one year each. A grant of £30 will be made to each.

WORCESTER AMALGAMATED FRIENDLY SOCIETIES' MEDICAL ASSOCIATION.—Assistant Medical Officer. Salary (without residence) £140 per annum, with a portion of midwifery fees; also £20 per annum for cab hire. (Apply to Mr. Gibson, Easy-row, Worcester.)

WARWICK FRIENDLY SOCIETIES' MEDICAL ASSOCIATION.—Surgeon. Salary commencing at £150, with residence. Midwifery cases extra. (Apply to the Secretary, 27, Queen's-square, Warwick.)

WEST LONDON HOSPITAL, Hammersmith-road, W.—House Physician for six months. Board and lodging provided.

WEST LONDON HOSPITAL, Hammersmith-road, W.—House Surgeon for six months. Board and lodging provided.

Births, Marriages, and Deaths.

BIRTHS.

ANDREWS.—On Aug. 24th, at Avondale, Finchley-road, South Hampstead, the wife of E. Collingwood Andrews, M.A., M.B., B.C., of a daughter.

BRODRICK.—On Aug. 18th, at Lynbridge House, Tavistock, the wife of C. C. Brodrick, Surgeon, of a daughter.

DIXEY.—On Aug. 24th, at Woodgate, Great Malvern, the wife of Harry E. Dixey, M.D., of a daughter.

GREENWOOD.—On Aug. 23rd, at Riseley, Bush-hill-park, the wife of George Greenwood, M.R.C.S., L.R.C.P., of a daughter.

JOUBERT.—On Aug. 13th, at Darjiling, India, the wife of Surgeon-Major C. H. Joubert, of a daughter.

RAMSAY.—On Aug. 22nd, at Winton, Bournemouth, the wife of Frank Winson Ramsay, M.B., B.S., of a son.

WARREN.—On Aug. 12th, at Home Ville, Headcorn, Kent, the wife of Dr. P. Somerville Warren, of a daughter.

WILLES.—On Aug. 25th, at Crooms Hill, Greenwich, the wife of William Willes, M.R.C.S., L.R.C.P., of a son.

MARRIAGES.

BOND—BEAKE.—On Aug 20th, at St. Stephen's Church, Putney, Francis Spencer Bond, M.R.C.S. and L.C.P., son of Augustus Salmond Bond, Esq., of Melbourne, to Beatrice Agnes Beake, of Keswick House, Putney, only daughter of the late Edward Lane Beake, Esq., of Wandsworth, Surrey.

MAC-MAHON—BURKE.—On Aug. 24th, at the Pro-Cathedral, Clifton, Jerome John Mac-Mahon, M.D., only son of J. Mac-Mahon, Esq., of Cork, to Elizabeth Mary Clare (May), youngest daughter of the late Major-General J. H. Burke, Royal Engineers (Bombay).

PLANCK—SIMMONS.—On Aug. 15th, at the Parish Church, Uplyme, Devonshire, Surgeon-General Planck, of Oakmead, Edenbridge, Kent, to Mary Eleanor, third daughter of the late Charles Francis Simmons, Esq., of Well-walk, Hampstead.

WARBURTON—MADDOCK.—On Aug. 20th, at the Parish Church, Barthomley, by the Rev. D. Shaw, Incumbent of Christ Church, Alsager, Arthur Warburton, M.R.C.S., L.R.C.P., Attorcliffe, Yorkshire, to Evelyn, only daughter of the late John Maddock, Esq., The Laurels, Alsager, Cheshire.

DEATHS.

BILDERBECK.—On Aug. 25th, at his residence, Cambridge-gardens, Notting-hill, W., John Bilderbeck, Brigade Surgeon H.M.'s Madras Army, Retired, in his 54th year, eldest surviving son of the late Rev. John Bilderbeck, of the C.M.S. at Madras.

CARTWRIGHT.—On Aug. 23rd, at his residence, Old Burlington-street, Samuel Cartwright, F.R.C.S., L.D.S., in his 76th year.

CLEVELAND.—On Aug. 18th, at his residence, Kent-terrace, Regent's-park, Deputy Surgeon-General E. S. Cleveland, Madras Retired List.

ECCLES.—On Aug. 18th, at his residence, Kensington, Liverpool, Robert Eccles, M.A., M.D., M.R.C.S., aged 40.

MACKAY.—On Aug. 9th, at Pitlochry, Perthshire, John Tait Mackay, L.R.C.S. Edin., of Monkwearmouth, Sunderland, aged 49 years.

SAVAGE.—On Aug. 17th, at Portrush, A. Marc Savage, L.R.C.P. Edin., M.R.C.S., of Newry, Co. Down.

SCOTT.—On Aug. 19th, at Liverpool, Thos. A. Scott, M.B., B.Ch. Dub., aged 26.

STEPHENS.—On Aug. 13th, at his residence, Pavilion-parade, Brighton, Joseph Stephens, M.D. St. And., L.R.C.P. Edin., M.R.C.S.

WALSH.—On Aug. 4th, at Quetta, India, Surgeon Charles Lawrence Walsh, Medical Staff, third son of W. H. Walsh, Park House, Oxford, aged 27.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

BOOKS ETC. RECEIVED.

DAVIS, F. A., Philadelphia and London.

Annual of the Universal Medical Sciences. Edited by C. E. Sajous, M.D., and others. Illustrated. Vols. I. to V. 1891.

PENTLAND, YOUNG J., Edinburgh and London.

Lead-poisoning in its Acute and Chronic Forms. By Thomas Oliver, M.A., M.D., F.R.C.P. 1891. pp. 121.

Practical Pathology and Morbid Histology. By H. Gibbes, M.D. Illustrated. 1891. pp. 320.

Annual Medical Report on the Straits Settlements Civil Hospitals for the year 1890; by Max F. Simon, Principal Civil Medical Officer (printed at the Government Printing Office, Singapore).—Vorlesungen über die Krankheiten des Herzens; von Oscar Fraentzel; II. (A. Hirschwald, Berlin, 1891).—Farbenanalytische Untersuchungen zur Histologie und Klinik des Blutes; von Dr. P. Ehrlich; Erster Theil (A. Hirschwald, Berlin, 1891).—Five Years of Public Health Work, 1886-1891; compiled from the Annual Reports of the Public Health Medical Society by F. J. Allan, M.D. Edin., D.P.H. Camb., Treasurer and Hon. Secretary (Offices, King's College, London).—Cancer and Phthisis occurring in different Members of the same Family; by Thos. W. Blake, M.R.C.S. (J. Bale & Sons, London, 1891); price 1s. 6d.—Post-graduate Course of Lectures, Medical Faculty, University of Toronto; delivered December, 1890 (J. E. Bryant Company, Toronto).—Bibliographie der Klinischen Helminthologie; von Dr. J. Ch. Huber; Heft 2, Cysticercus Cellulosæ Rud. (J. E. Lehmann, München, 1891).—Health: the Voyage to South Africa, and Sojourn there (Messrs. Donald Currie & Co., London, 1891).—Index Medicus, Authors and Subjects; Vol. XIII., No. 7, July, 1891 (Trübner & Co., and Lewis, London).—Spasmodic Wry-neck, and other Spasmodic Movements of the Head, Face, and Neck; by Noble Smith, F.R.C.S. Edin. (Smith, Elder, and Co, London, 1891).—Magazines for September: Good Words, Sunday at Home, Leisure Hour, Sunday Magazine (Isbister); Boys' Own Paper, Girls' Own Paper (Religious Tract Society); Scribner's.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Stewart's Instruments.)

THE LANCET Office, Aug. 27th, 1891.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
Aug. 21	29·23	N.W.	56	55	78	63	55	·04	Raining
,, 22	29 51	W.	55	53	116	69	50	·12	Bright
,, 23	29 76	W.	56	53	114	69	51	..	Cloudy
,, 24	29·90	W.	58	55	100	67	54	..	Cloudy
,, 25	29 76	W.	60	56	103	65	56	·10	Cloudy
,, 26	29 76	W.	64	59	116	71	58	·04	Cloudy
,, 27	29 48	S.W.	62	61	74	64	60	·13	Raining

Notes, Short Comments, & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editors."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "To the Publisher."*

We cannot undertake to return MSS. not used.

THE STUDENTS' NUMBER OF "THE LANCET" will be published on Saturday next, Sept. 5th. Those gentlemen, holding official situations connected with institutions of Medicine, Dentistry, or Public Health in the United Kingdom, who have not yet forwarded the necessary information to our Office for publication in that number, are earnestly requested to send it *without the delay of a single post.*

INFLUENCE OF HEADGEAR ON PREMATURE BALDNESS.

To the Editors of THE LANCET.

SIRS,—The following note may possibly be not unwelcome as an addition to Dr. TYSON's paper on premature baldness, of which I have just read a notice in an occasional copy of THE LANCET sent me by a friend.

When in practice for a couple of years in the vicinity of Cassel I noticed that amongst the peasantry the women suffered from baldness in quite an enormous percentage, while the men mostly had a very good crop of hair. Of married couples, almost invariably the wife was the first to become bald, quite contrary to the rule obtaining elsewhere. The people themselves attributed this occurrence in general to the fact that the men always wore soft caps, while the Hessian women and girls have a sort of peaked helmet (called a "Batzel") for a head-dress. It consists of a pasteboard cone covered with black silk or some other stuff, and is too small at its base to allow of its being pushed down over the head as far as an ordinary hat, so that it has to be secured by ribbons tied firmly under the chin, while the hair is pulled up from all sides of the head and twisted into a tight knot at the top. Naturally a good deal of friction is caused in this manner, and it would seem not improbable that the growth of the hair may be considerably impaired thereby. The thinning was most conspicuous on the forehead and temples. I give this note for what it is worth, but I cannot help being struck with the fact that I have nowhere seen so many bald-headed women as in the province of Hessia.

I am, Sirs, yours truly,

Nieheim, Aug. 20th. F. A. PHILIPPI, M.D.

To the Editors of THE LANCET.

SIRS,—Is premature baldness more prevalent than formerly, and, if so, is it due to the wearing of heavy headgear, as assumed by a recent contributor to your pages?

It would seem that in ancient historical times baldness was rare, and considered a reproach to the individual. Julius Cæsar Divus was sufficiently human to have been troubled at the scantiness of his hair. "His baldness" (says Suetonius) "gave him much uneasiness, having often found himself upon that account exposed to the gibes of his enemies. He therefore used to bring forward the hair from the sides of his head;

and of all the honours conferred upon him by the Senate and people there was none which he either accepted or used with greater pleasure than the right of wearing constantly a laurel crown." The cause of the Dictator's loss of hair could not be referred to his head covering, as it is well known he went with his head bare in all kinds of weather. Scurrilous songs were sung in the streets and camps in derision of the *maechum calvum*. Baldness appears to have been imputed as a fault to the Emperor Galba, who was well advanced in years when he acquired the empire. Juvenal, in lashing the vices of Domitian, apparently considered the tyrant Baldness to fall within the category. Probably the heaviest head-dress ever worn were the massive bronze and iron helmets under which the Roman legionaries toiled and fought in every climate; but there is some reason for thinking baldness to have been very infrequent among them. Readers of Tacitus will remember a curious passage describing a tumult in some legions stationed on the Rhine, when certain soldiers claimed discharge and rewards after thirty years' service. The intrepid veterans stripped themselves to the skin, pointed to their bent backs and distorted limbs, and bared their toothless gums, which, by Hercules! they wished their prince to feel with his own fingers. It does not seem probable that baldness, had it existed to any extent, would have been omitted from this unreserved presentation of claims for immunity from service.

I would venture, with diffidence, to submit that baldness is slowly becoming more prevalent, but that it is not due to the quantity or nature of head-coverings. Is not the explanation to be found in that inexorable process of evolution in which the race is bound and fettered?

I am, Sirs, yours obediently,

Brighton, Aug. 24th, 1891. W. W. J.

THE MARY WARDELL CONVALESCENT HOME FOR SCARLET FEVER.

To the Editors of THE LANCET.

SIRS,—May I be allowed, as a patient convalescing from scarlet fever at the above institution, to draw the attention of the profession in and around London to the excellent work which is being done by it? Although the Metropolitan Asylums Board possesses a large convalescent home at Winchmore Hill, its use is restricted to patients coming from the Board's acute hospitals. At the present time, therefore, this place is the only refuge for those who have passed through the acute stages of the disease in their own homes. The founders originally intended this institution for patients from the poorer parts of London who were unable to pay the whole cost of their maintenance, but it was subsequently decided to provide, in addition, accommodation for those who were in a position to defray their own expenses. It would be difficult to overrate the advantages both to the private and public health which an institution of this kind affords, and it is because I find it not so widely known as it deserves to be that I am troubling you with this communication. The home is situated on Brockley Hill, Stanmore, Middlesex, which is within easy driving distance of London. The water-supply is good, and the drainage, ventilation, and disinfecting apparatus are all of modern type. Inquiries should be addressed to Miss Mary Wardell, at the Home.

I am, Sirs, yours faithfully,

HERBERT T. BULSTRODE, M.A., M.D. Cantab., D.P.H.

Stanmore, Aug. 25th, 1891.

MUSIC IN ILLNESS.

To the Editors of THE LANCET.

SIRS,—The accompanying letter received a few days since gives a remarkable example of the curative power of music, and as such may prove of interest to your readers. If cases similar to Mr. Webb's could be discovered, we might glean some facts which would be of service perhaps to a large number of sufferers.

I am, Sirs, faithfully yours,

Westminster, Aug. 12th, 1891. FREDERICK K. HARFORD.

"SIR,—Seeing your letter in the *Magazine of Music*, I should like to tell you that I thoroughly agree with the idea of music in illness, because I have had practical experience. For quite three years it had an enormous influence over me, being a means of restoring consciousness in a peculiar kind of fit to which I was once subject. While other remedies could do nothing for me, music could. I shall always be very thankful that my friends thought of it.

"I am, faithfully yours,

"St. John's, Worcester." "E. M. WEBB.

*** We insert the above, but with the intimation that the impressions of patients as to the results of treatment must always be accepted with some reserve.—ED. L.

HUMAN OR ANIMAL LYMPH.

To the Editors of THE LANCET.

SIRS,—I have read with interest the correspondence and your annotation anent calf lymph, and am surprised to find that the calf is taken to be free from disease. That he is free from syphilis I grant; but tuberculosis is very common among calves apparently healthy. During the past three days I have found two cows suffering from this disease, one with the udder badly affected, rearing calves to all appearance perfectly healthy and fit to act as culture grounds for lymph. It is needless to add that tuberculosis is not the only disease from which apparently healthy calves suffer. I fancy healthy children are as common as healthy calves.—Your obedient servant,

Exmouth, Aug. 9th, 1891. FRAS. E. PLACE, M.R.C.V.S.

THE EXHIBITS AT BOURNEMOUTH.

WE accidentally omitted to mention in our list of exhibits at Bournemouth the stall of Messrs. John Richardson and Co., of Leicester, who, besides showing a remarkable display of their soluble pearl-coated pills and granules, exhibited many medical and surgical appliances, including their "prize" cabinet. This is an elegant and highly finished article, 7ft. 3in. in height, and 4ft. 2in. wide at the base. The front is divided into seventeen moulded panels, and has a 3½-in. moulded and dentilled cornice.

Mr. J. Albert Magee.—B. seems to have acted quite rightly. He acted with consideration to A. in requiring notification and suggesting a consultation, and with consideration to his principal in retaining the case for him.

"THE SKIN OF THE TOAD."

To the Editors of THE LANCET.

SIRS,—My attention has just been directed to a letter from Dr. Genney in your issue of the 15th inst., referring to a statement of mine regarding the skin of the toad.

Animal poisons are at present acquiring a new interest from the relationship which is now found to exist between them and the poisons formed by diseased germs. In snakes the poison is secreted by a modified salivary gland, and the same is the case in a kind of lizard, the Heloderma suspectum. In the case of the toad and salamanders, poisons appear to be formed in the skin. They have been obtained for examination by scraping the skin with a teaspoon. The secretion from the toad is thick, yellow, and sticky. It is said by some to be alkaline, by others to be acid. It retains its poisonous action, when dried, for at least a year, and probably much longer. The active principle called phrynin or bufidin is probably of an alkaloidal nature. Very large doses are required to produce death by internal administration. Enormous quantities are tolerated by rabbits, and dogs require two or three times as much by the mouth as by subcutaneous injection. Locally applied, it causes anæmia of the tissues and ulceration or gangrene at the point of injection. It produces vomiting, uncertain gait, convulsions, paralysis of the voluntary muscles, and is said by Fornara to act like digitaline. Its effects, however, appear rather to resemble those produced by erythrophlœum. Fornara's paper is to be found in the *Journ. des Therap.*, 23, p. 882, and it is abstracted by Husemann in Virchow's "Jahresbericht," 1887, vol. i., p. 441. The poison of the Triton cristatus has also a local irritant action, and slows the heart and arrests it in diastole. The poison destroys the blood corpuscles, but death occurs without convulsions. The poison of the Salamander maculata also causes local irritation, irregular action of the heart, marked trembling, and epileptiform convulsions, with death by paralysis. A good account of these poisons, with reference to the literature of the subject, is to be found in Lewin's *Lehrbuch der Toxicologie*, 1885, pp. 413 to 415; and a short but convenient account is also to be found in Kobert's *Compendium der Praktischen Toxicologie*, 1887, p. 157. It is to be noted that toads are not all equally poisonous, the Italian toad being much more poisonous than the French one.

I am, Sirs, yours faithfully,

Aug. 26th, 1891. T. LAUDER BRUNTON.

To the Editors of THE LANCET.

SIRS,—Dr. Genney will find much information on this subject in "The Elements of Medical Zoology," by A. Moquin-Tandon, also in Bell's "History of British Reptiles." Toad's poison is secreted by the parotid glands, and by the numerous warty follicles which stud the back and sides. It is a thick milky fluid, resembling in taste and appearance the juice of dandelion stalks. It is soluble in alcohol, reddens turmeric, and solidifies on exposure to air. Gratiolet and Cloez inoculated linnets and finches with this fluid, and found that they died in about six minutes. They opened their beaks, staggered, lost the power of coördination, closed their eyes, and fell dead. Dogs and goats died in less than an hour after subcutaneous injection of small quantities of the fluid, rendered alkaline by potash. Vulpian found that dogs and guinea-pigs died in from half to one hour and a half after similar treatment, the symptoms being excitement followed by depression, vomiting, intoxication (in the dog), convulsions (in the guinea-pig), and death. It is said to be a powerful arrester of the heart. Dr. Davy (Phil. Trans., 1826) compares its action to that of aconite. It is poisonous to frogs, and probably to frog-eating snakes. I once kept a small toad in the cage of some common lizards (zootoca vivipara). Relations were amicable until I disturbed them by making a lizard bite the toad. The lizard immediately rushed wildly round the cage, burrowing its head in the sand, became convulsed, and died in less than two minutes. Dogs will seldom attack a toad twice, and are some times killed by a first encounter. Instantaneous and most profuse salivation, violent vomiting, and collapse followed the introduction of my own dog to a toad. The secretion has a powerful local action on the skin. After carrying a toad in my hand for some distance I experienced a most disagreeable sensation of numbness and tingling in the fingers and palms, which became slightly swollen, stiff, and extremely dry. The symptoms lasted for several hours. I have been told that German violinists, when suffering from moist hands, are accustomed to check the perspiration by handling live toads. Readers of Mark Twain will remember that Tom Sawyer attributed the warts on his hands to his habit of playing with toads. The popular notion that toads spit venom is due to their trick of expelling clear water from the fundament when annoyed.

I am, Sirs, yours faithfully,

Upper George-street, W., Aug. 24th, 1891. LEONARD G. GUTHRIE.

THE CONGRESS OF HYGIENE.

The Visit to Netley.

IN the description of the visit paid to Netley by the members of the Hygiene Congress, we regret that, in mentioning the names of those officers who exerted themselves to make the visit enjoyable and instructive to the guests, by an inadvertence, the name of Brigade Surgeon W. T. Martin in medical charge of the Lunatic Hospital, and that of Surgeon Reid, were omitted from the description. These two gentlemen showed most of the foreign delegates over the Lunatic Hospital, with the arrangements of which they expressed themselves highly pleased.

The Bacteriological Museum.

Our description of the museum, the large display of microscopes and apparatus, comprising instruments by Carl Zeiss of Jena, Carl Reichert of Vienna, and E. Leitz of Wetzlar, should have included the exhibits of Mr. Charles Baker, Holborn, the agent for these firms. Seventy microscopes, also photo-micrographic apparatus, a projection microscope, optical lanterns, and many other instruments in use in bacteriological research were shown. Some fifty microscopes were placed at the dispesal of members of the Congress, and were used in the bacteriological museum, and to illustrate the papers read in the rooms of the Royal Society.

Dr. Arthur H. Rideal.—The paper is under consideration.

Dr. Syers.—Very soon.

THE CONTIGUITY OF CESSPOOLS TO DWELLING-HOUSES.

To the Editors of THE LANCET.

SIRS,—May I hope for an authoritative statement in THE LANCET on the following point? My house, lying too low to be connected with the main drainage, is drained into a deep cesspool, considerably deeper than the foundations of the house, well bricked, and covered with a close-fitting lid, above which there lie about two feet of clay. The cesspit is about three or four yards from the back of the house. This fact gives an uncomfortable impression, and the opinion has been expressed by a London physician and by a firm of sanitary engineers that the proximity to the house is a source of danger. I cannot get at the truth on this important question, for other authorities assert that it is absolutely innocuous; and as the question involved is one of general sanitation, I think it is one not unsuitable for reference to you. It is, of course, to be assumed that the connexions, trapping, ventilation, &c., are perfect, and the question is narrowed to this—Is the mere fact of proximity to the house of a cesspool in heavy clay soil in itself a possible source of insanitary influence of any kind?

I am, Sirs, your obedient servant,

Aug. 19th, 1891. H. H.

*** The actual circumstances of the case in question could only be ascertained as the result of a local inspection of the soil and foundations of the house. But, on the general question, we must answer unhesitatingly that the arrangement as described is a bad one, and one probably involving risk. The conditions under which a cesspool is permissible in relation to a dwelling-house are those laid down by the Local Government Board—namely, that it should be impervious, the brickwork being set in cement and having a backing of clay, that it should be adequately ventilated, and that it should be some forty to fifty feet away from the house. Clay in the position described cannot be regarded as a security. In close proximity to and beneath dwelling-houses it is largely protected from moisture; it tends to become dry, and then it exhibits fissures which easily admit effluvia from a polluted soil under the foundations of the house, whence they are drawn up by the influence of fires &c.—ED. L.

NERVOUS DEPRESSION.

To the Editors of THE LANCET.

SIRS,—Amongst a number of patients, both men and women, who have been fortunate enough to escape the influenza, a serious condition of nervous depression has been observed. The nervousness amounts in many cases to a despondency which is so unendurable as to make the patient feel as if he would like to end his life. There is, however, this peculiarity about it, differing from that of melancholia, that the individual is conscious of his nervousness, and knows that the suicidal inclination is due to ill health, and that it is necessary for him to fight against it, albeit he feels he has not the strength to do so. In less severe cases the nervousness assumes the form of languor with disturbed and unrefreshing rest, and a want of interest in all that is going on. The bowels are invariably confined, the flatulence is most distressing, and the hands and feet are frequently cold. Irritability of temper, so common with sluggishness of the liver, is an uncommon symptom, as the patient is too apathetic to be annoyed. On recovery the invalid has a distinct recollection of all he has endured, and is able to describe the intense feeling of depression. The treatment which yields the best result is a mixture of bromide of potassium, Indian hemp, and gentian, with an aloetic purgative at bedtime, and strict attention to diet.—I am, Sirs, yours truly,

G. SHERMAN BIGG, F.R.C.S. Edin.

Victoria-st., S.W., Aug. 24th, 1891. (late Army Medical Staff).

ABNORMAL PRESENTATION OF TWINS.

To the Editors of THE LANCET.

SIRS,—The following case, as a curious presentation of twins may be of interest to your readers.

I was called at 10.30 A.M. on Aug. 24th, 1891, to a lady, aged thirty-five years, who had been married twelve months, this being her first confinement. The pains were every three minutes. I examined, and found two *left* hands protruding through the os uteri, which was fully dilated. The hands were covered by the membranes, and I did not find they were left hands until I ruptured the membranes. Of course, I at once passed the hands into the cavity of the uterus, inserted my hand, and brought down the two feet of one of the twins and delivered it (a female). Then I ruptured the membranes of the second twin, when it presented a shoulder (left). I had again to turn, and bringing down the feet delivered the second child (a male). My patient lost a considerable amount of blood, and the uterus was uncontracted. I accordingly again inserted my hand and found the placenta adherent entirely, and I had to peel it off. Having brought away the placenta and membranes, the uterus contracted well, and I have had no further trouble. The patient, whom I have seen to-day, is doing exceedingly well, and the twins are also thriving.—I am, Sirs, yours truly,

Fulham, Aug. 26th, 1891. H. HAVILLAND ROE, M.R.C.S., L.S.A.

THE GRASS OIL OF INDIA.

To the Editors of THE LANCET.

SIRS,—I wish to draw the attention of the profession to the valuable properties of the grass oil of India. It is the essential oil of the tall spiked grass of the Central Provinces of India, the *Andropogon schœnanthus* of Linnæus, and yielded the very precious ointment of spikenard of Scripture, known and valued in India as "Rúsá-ki-tél," or Rusa oil. Its properties are alterative, emollient, and rubefacient. It is invaluable in gout and rheumatism, and, I may add, of remarkable efficacy in phlegmasia dolens. It is either rubbed in pure or mixed with salad oil. Being an essential oil, it is expensive; but a little goes a very long way, and its fragrance is largely in its favour. The oil is acted on by light, and passes from lemon yellow to dark brown, but without losing its efficacy or fragrance. I shall be happy to supply a small quantity to any member of the profession desirous of trying it.

I am, Sirs, yours faithfully,

R. F. HUTCHINSON, M.D., M.R.C.S.E.,

Aug. 24th, 1891. Surgeon-General, Bengal Army (retired).

ERRATUM.—The paper on "The Present State of our Knowledge concerning the Self-purification of Rivers," a brief abstract of which appeared in our impression of the 14th inst., p. 395, was read by Dr Percy F. (not Prof. Edward) Frankland.

COMMUNICATIONS not noticed in our present number will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Mr. R. R. Anderson, Fern Hill; Mr. Alexander, Broseley; Messrs. Blondeau et Cie., London; Dr. Bronner, Bradford; Messrs. Brooks, Peel, and Co, London; Dr. Belin, Paris; Mr. Brodie, Suffolk; Messrs. Bush and Co., London; Mrs. Bilham, Bournemouth; Dr. Bucklin, New York; Mr. Barlow, Birmingham; Mr. S. Bigg, London; Dr. Dawson Burns, London; Mr. Birchall, Liverpool; Messrs. Branthwaite and Boorne, Twickenham; Mr. Blount, Boulogne; Messrs. Blackwood and Son, Edinburgh; Mr. J. B. Browne, London; Messrs. Bell and Bradfute, Edinburgh; Miss Bidwell, Manchester; Mr. Beck, Tiverton; Dr. Carpenter, Croydon; Dr. W. J. Collins, London; Mr. Hall Caine, Keswick; Mr. Cooke, London; Dr. Claude, Ilfracombe; Mr. Campbell, Jarrow-on-Tyne; Dr. A. Dunbar, Liverpool; Messrs. Eason and Son, Dublin; Mr. Eccles, London; Mr. Faithful, London; Messrs. Flatau and Mankievicz, Berlin; Dr. Percy Frankland, London; Messrs. Griffin and Co., London; Surgeon Giffard, Guernsey; Dr. Gresham, Los Angeles; Dr. Gibson, Godalming; Mr. Grier, Megavissey; Dr. L. G. Guthrie, London; Dr. Greenway, Tunbridge; Dr. Hume, Newcastle-on-Tyne; Dr. Hime, Bradford; Mr. Hornibrook, London; Mr. Victor Horsley, London; Mr. C. Heath, London; Mr. W. H. Haw, Rustenburg; Surgeon-General R. F. Hutchinson; Mr. Hankinson, Bournemouth; Mr. Hilliard, Aylesbury; Mr. Hagyard, Hull; Mr. C. F. Jones, London; Messrs. Johnston, Edinburgh; Mr. Kühn, London; Dr. F. Little, London; Mr. H. Liston, Sunderland; Messrs. Llewellyn and Thomas, Cardiff; Mr. Lamb, London; Dr. Laveran; Messrs. Lee and Martin, Birmingham; Mr. Lamb, Wolverhampton; Mr. R. W. Lloyd, London; Dr. Lyon, Houghton-le-Spring; Mr. Lindsay, Glasgow; Mr. Little, London; Rev. F. Lawrence, London; Mr. H. T. Mursell, Manchester; Mr. McLaurin, London; Dr. Marshall, London; Mr. A. Mason, Walton-on-Thames; Mr. Meadows, Hastings; Mr. Murchison, Isleworth; Mr. Myers, Instow; Miss Morcom, Chester; Mr. Murray, London; Dr. McGowan, Manchester; Mr. C. Maclean, Swindon; Brigade-Surgeon Martin, Netley; Mr. North, Brighton; Mr. Norton, Exeter; Messrs. Oppenheimer and Co., London; Messrs. Oliver and Boyd, Edinburgh; Mr. A. Percival, Newcastle-on-Tyne; Dr. Leslie Phillips; Dr. Philippi, Nieheim; Mr. Page, London; Dr. Robertson, Newcastle-on-Tyne; Mr. Rideal, Southboro'; Messrs. Robertson and Scott, Edinburgh; Dr. Rolfe, London; Mr. T. O'C. Redmond, Dublin; Dr. A. Smart, Edinburgh; Mr. Sandeman, Lenzie; Dr. Schott, Bad Nauheim; Dr. Syers, London; Dr. K. Shibata, London; Mr. Sewill, London; Mr. H. Smith, London; Mr. Stockwell, Bath; Messrs. Tayler

and Co., London; Mr. A. Turner, Aylesbury; Mr. B. Thornton, Margate; Mr. Thomas, Caerphilly; Dr. R. Willson, London; Dr. Windle, Halifax; Mr. Walsham, London; Mr. Wood, Pontypool; Mr. Wylie, Middlesbrough; Rev. Mr. Williams, Wallingford; Weston-super-Mare Hospital; Lancashire, London; B., London; Secretary, University of Aberdeen; F.R.C.S.I., London; Etiquette; Juvenis; Hospital for Mental Disorders, London; W. W. J.; Secretary, Croydon; Stafford Infirmary; In-door, London.

LETTERS, *each with enclosure*, are also acknowledged from—Mr. King, Durham; Mr. Dunlop, Woolston; Mr. Tully, Hastings; Messrs. J. and H. Grace, Bristol; Mr. Fleming, Stockton-on-Tees; Messrs. Allden and Johnston, Shirley; Mr. Fulton, Burnley; Messrs. Ormrod and Dudgeon, Cumberland; Rev. A. Tooth, Croydon; Messrs. Howell and Co., South Kensington; Mr. Heanley, Southsea; Messrs. Cassell and Co., London; Mr. Maddock, Stoke-upon-Trent; Messrs. Wright and Co., Bristol; Mr Payne, London; Mr. Sers, Peckham; Messrs. Lloyd and Co., Leicester; Dr. Jones, Glamorganshire; Mr. Gann, Hayling Island; Dr. Garman, Kendal; Mr. Mackay, Crook; Messrs. Evans and Co., Warwick; Mr. W. Mather, Manchester; Mr. Smith, Isle of Wight; Mr. Barrs, Leeds; Mr. Owen, Fishguard; Messrs. Potter and Sacker, London; Mr. Tyte, Minchinhampton; Messrs. Beal and Son, Brighton; Mr. Durran, Thurso; Mr. Fiske; Messrs. Baelz and Co., London; Mr. McClelland, London; Mr. Stretton, Kidderminster; Mr. Stechan, Ulverston; Mr. Legge, Ringmer; Dr. McDougall, Runcorn; Dr. Redwood, Rhymney; Dr. Laurent, Rouen; Mr. Woodford, Ventnor; Mr. Dickson, Buxton; Mr. Lawson, Guernsey; Dr. Croke, Beverley; Mr. Bagshaw, Salford; Mr. Sergeant, London; Mr. Pace, Newcastle-on-Tyne; Mr. Maclean, Scotland; Messrs. Herington and Co., London; Mr. Cochrane, Wigtownshire; Mr. Beveridge, Milnathorp; Mr. Osburn, Cowbridge; Dr. Rafter, Seaforth; Mr. Robson, co. Meath; Miss Grant, Worthing; Mr. Bromilow, Stone; Mr. Hulme, Leek; Dr. Skrimshire, Norfolk; Dr. Patrick, Leicester; Mr. Goldney, Shrewsbury; Mr. Heywood, Manchester; Mr. Parry, Wellingboro'; Mr. Thin, Edinburgh; Messrs. Cooper, London; Dr. McMaster, Perth; Medicus, Clitheroe; Unattached, London; Secretary, Law Union Fire Insurance Co., London; K. B. D., London; Nottingham Borough Asylum; Rotunda, London; Cannula, Manchester; Bouillon Fleet Co., Cambridge; Delta, London; Physician, London; Union Assurance Society, London; Medicus, Ventnor; Secretary, Wonford House Hospital, Exeter; Calluna, London; D., Lancashire; Coma, London; M.B., Hull; General Apothecaries' Co., London; A. E. M., London; M. A. B., London; D. M. S., London; W. B., Tollington-park; X. Y. Z., London; Forceps, London; Marcus, London; Harold, Southport; M.R.C.S., London; Hartlepool Union; Physician, Hampstead; Medico, London; Dowker, London; Forrest, London; Rector, Carnarvon; Scapula, London; B., Edinburgh; F. F., London; E. P., London; Analyst, London; Perch, London; E., Carnarvon; James, London; Fellowship, London; R. T. W., London; M.D. Experience, London; Alpha, Essex; Physician, Bath; A. B. C., London; Dynamos, London; Stethoscope, London; Dispensary, London; C. M. G., London; Physician, London.

NEWSPAPERS.—*Stockport Chronicle, Glasgow Herald, Sussex Daily News, Leeds Mercury, Scottish Leader, City Press, Yorkshire Post, Windsor and Eton Express, Bristol Mercury, Liverpool Daily Post, West Middlesex Standard, The Newspaper, Law Journal, Manchester Examiner and Times, Melbourne Argus, Insurance Record, Mining Journal, Weekly Free Press and Aberdeen Herald, Hertfordshire Mercury, Builder, Sunday Times, Surrey Advertiser, Reading Mercury, Windsor and Eton Gazette, West Middlesex Advertiser, Architect, Broad Arrow, Spectator, Local Government Chronicle, Metropolitan, Saturday Review, Chemist and Druggist, Australian Trading Journal, Pharmaceutical Journal, Manchester City News, The Herald (London), Dundee Advertiser, Le Temps (Paris), Scotsman, Liverpool Echo, Catholic Times, Los Angeles Herald, Tonbridge Free Press, Bury Post, North Devon Herald, United Service Gazette, Citizen, Madras Weekly Mail, Invention, Birmingham Post, Newark Advertiser, Bognor Observer, Dewsbury Chronicle, Belfast Standard, Barrow News, Cape Times, Oxford Chronicle, Carnarvon Herald, &c.*, have been received.

Medical Diary for the ensuing Week.

Monday, August 31.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M., and on Tuesday, Wednesday, Friday, and Saturday at the same hour.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations daily at 10 A.M.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.

CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M.; Thursday, 2.30.

HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.

METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.

ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.

CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.

UNIVERSITY COLLEGE HOSPITAL.—Ear and Throat Department, 9 A.M.; Thursday, 9 A.M.

Tuesday, September 1.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays at the same hour.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.

ST. THOMAS'S HOSPITAL.—Ophthalmic operations, 4 P.M.; Friday, 2 P.M.

ST. MARK'S HOSPITAL.—Operations, 2 P.M.

CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.

WESTMINSTER HOSPITAL.—Operations, 2 P.M.

WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electrotherapeutics, same day, 2 P.M.

Wednesday, September 2.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.

MIDDLESEX HOSPITAL.—Operations, 1 P.M. Operations by the Obstetric Physicians on Thursdays at 2 P.M.

CHARING-CROSS HOSPITAL.—Operations, 3 P.M., and on Thursday and Friday at the same hour.

ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.

LONDON HOSPITAL.—Operations, 2 P.M. Thursday & Saturday, same hour.

ST. PETER'S HOSPITAL, COVENT-GARDEN.—Operations, 2 P.M.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.

GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 1.30 P.M.; Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.

ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.

CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M. Surgical Visits on Wednesday and Saturday at 9.15 A.M.

Thursday, September 3.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Ear and Throat Department, 9 A.M.

Friday, September 4.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

Saturday, September 5.

MIDDLESEX HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; and Skin Department, 9.15 A.M.

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ADVERTISING.

Books and Publications (seven lines and under)	£0 5 0
Official and General Announcements	0 5 0
Trade and Miscellaneous Advertisements	0 4 6
Every additional Line	0 0 6
Front Page per Line	0 1 0
Quarter Page	1 10 0
Half a Page	2 16 0
An Entire Page	5 5 0

The Publisher cannot hold himself responsible for the return of testimonials &c. sent to the office in reply to advertisements; copies only should be forwarded.

NOTICE.—Advertisers are requested to observe that it is contrary to the Postal Regulations to receive at Post Offices letters addressed to initials only.

An original and novel feature of "THE LANCET General Advertiser" is a special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice, but is in itself an *additional* advertisement.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to Advertisements appearing in THE LANCET.

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Advertisements are now received at all Messrs. W. H. Smith and Son's Railway Bookstalls throughout the United Kingdom and all other Advertising Agents.

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